ASEM Open Automation Systems

USER'S GUIDE

HMI30 / HMI30-TF

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SECTION **1**

Preliminary Information

1.1 General notes

a) The information in this manual is subject to change and is in no way binding upon ASEM S.p.A.

b) ASEM S.p.A. is not responsible for technical errors or other omissions in the manual, and shall not accept any responsibility deriving from its use.

1.2 Trademarks

a) All brands and product names mentioned in this manual are trademarks of their respective owners.

1.3 Instructions on disposal

IT

- Il simbolo sul prodotto o sulla confezione indica che il prodotto non deve essere considerato come un normale rifiuto domestico, ma deve essere portato nel punto di raccolta appropriato per il riciclaggio di apparecchiature elettriche ed elettroniche. Provvedendo a smaltire questo prodotto in modo appropriato, si contribuisce a evitare potenziali conseguenze negative per l'ambiente e la salute, che potrebbero derivare da uno smaltimento inadeguato del prodotto. Per informazioni più dettagliate sul riciclaggio di questo prodotto, contattare l'ufficio comunale, il servizio locale di smaltimento rifiuti o il fornitore da cui è stato acquistato il prodotto.

EN

- The symbol on the product or in its packaging indicates that this product may not be treated as household waste. Instead it shall be handed over the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the supplier where you purchased the product.

FR

- Le symbole sur le produit ou son emballage indique que ce produit ne peut être traitè comme décher ménager. It doit être remis au point de collecte dèdié à cet effect (collect et recyclage du matèriel èlectrique et èlectronique). En procèdant à la mise à la casse règlementaire de l'appareil, nous prèservons l'environnement et notre sécurité, s'assurant ainsi que les dèchets seront traitès dans des conditions appropriées. Pour obtenir plus de dètails sur le recyclage de ce produit, veuillez prendre contact avec les services de votre commune ou le distributeur où vous avez effectué l'achat.

DE

- Das Symbol auf dem Produkt oder seiner Verpackung weist darauf hin, dass dieses Produkt nicht als normaler Haushaltsabfall zu behandeln ist, sondern an einem Sammelpunkt für das Recycling von elektrischen und elektronischen Geräten abgegeben werden muss. Durch ihren Beitrag zum korrekten Entsorgen dieses Produkts schützen Sie die Umwelt und die Gesundheit Ihrer Mitmenschen. Umwelt und Gesundheit werden durch falsches Entsorgen gefährdet. Weitere Informationen über das Recycling dieses Produkts erhalten Sie von Ihrem Rathaus, Ihrer Müllabfuhr oder den Distributoren, in dem Sie das Produkt gekauft haben.

ES

- El simbolo en el producto o en su embalaje indica que este producto no se puede tratar como desperdicios normales del hogar. Este producto se debe entregar al punto de recolección de equipos eléctricos y electrónicos para reciclaje. Al asegurarse de que este producto se deseche correctamente, usted ayudará a evitar posibles consecuencias negativas para el ambiente y la salud pública, lo qual podria ocurrir si este producto no se manípula de forma adecuada. Para obtener informaciónes mas detalladas sobre el reciclaje de este producto, póngase en contacto con la adMinistraciòn de su ciudad, con su servicio de desechos del hogar o con el surtidor donde comprò el producto.

PT

- simbolo no produto ou na embalagem indica que este producto não pode ser tratado como lixo doméstico. Em vez disso, deve ser entregueado ao centro de recolha selectiva para a reciclagem de equipamento electrico e electronico. Ao garantir uma eliminação adequada deste produto, ira ajudar a evitar eventuais consequencjas negativas para o meio ambiente e para a saude publica, que, de outra forma, poderiam ser provocadas por un tratamento incorrecto do produto. Para obtener informações mais detalhadas sobre a reciclagem deste produto, contacte os serviços municipalizados locais, o centro de recolha selectiva da sua area de residência ou no distribuidor onde adquirir ou produto.

1.4 Description of safety symbols

Danger	This symbol indicates a danger to life or health of personnel.
Attention	This symbol indicates a danger to the hardware and / or the environment.
Note	This symbol indicates an additional information meant to provide a better understanding.

1.5 Qualified Personnel

a) HMI30 may be operated only by personnel qualified for the specific task in accordance with the relevant documentation for the specific task, in particular its warning notices and safety instructions.
b) Qualified personnel are those who, based on their training and experience, are able to identify risks and avoid potential hazards when working with these systems.

1.6 Basic knowledge required

a) To understand operating instructions a general knowledge of automation technology is needed.
b) Knowledge of personal computers and the Microsoft operating system is required to understand this user's guide.

1.7 Proper use of the product

a) ASEM products may only be used for the applications described in the catalogue and in the technical documentation.
b) If products and components from other manufacturers are used, these must be approved by Asem.
c) Proper transport, assembly, installation, storage, commissioning, operation and maintenance are required to ensure that the product operates safely.
d) The indicated environmental conditions must be observed.
e) The information in this user's manual must be observed.

1.8 Purpose of the user's guide

a) This user's manual contains information based on the requirements defined by DIN EN 62079 for mechanical engineering documentation.
b) These operating instructions are intended for:
    1. Users.
    2. Commissioning engineers.
    3. Maintenance personnel.
c) Pay attention at the information in the chapter "Safety instructions".
d) More information such as operating instructions, examples and reference information, are available in the online help of Premium HMI 3 software and Ubiquity software.

1.9 The manual is a part of the system

a) This user's guide belongs to HMI30 and is also required for commissioning.
b) Keep all supplied documentation for the entire service life of HMI30.

1.10 Figures

a) This manual contains illustrations of the described devices.
b) Some details of the illustrations may differ from the device provided.

1.11 Scope of the operating instructions

c) The operating instructions apply to the HMI30 family devices in conjunction with the Premium HMI 3 software.
The devices are the following:

HMI30	5.7"	Full aluminum front panel
	7.0" Wide	
	8.4"	
	10.4"	
	12.1"	
	15.0"	
HMI30-TF	5.7"	Aluminum front panel with True Flat technology
	7.0" Wide	
	8.4"	
	10.4"	
	12.1"	
	15.0"	

1.12 Safety instructions

1.12.1 Installation according to the instructions

- Commissioning the HMI device is prohibited until it has been absolutely ensured that the system in which the HMI device is to be installed complies with all the applicable EU and international regulation.

1.12.2 Hazardous areas

- Do not use HMI30 in hazardous areas.

1.12.3 Working on the control cabinet

- **Open equipment**
  The HMI device is open equipment. This means that the HMI30 may only be integrated in housings or cabinets, where it can be operated from the front panel.
  The cabinet in which HMI30 is installed may only be accessed with a key or tool and only by trained and authorized personnel.
- **Dangerous voltage**
  Opening the cabinet may expose high voltage parts. Before opening the cabinet always disconnect the power.

1.13 Notes about usage

- HMI30 is approved for indoor use only.
- HMI30 may be damaged if operated outdoors.

1.14 Applicable standard

Please refer to section 8 for details about the relevant standards.

SECTION **2**

Description

2.1 Product description

The HMI30 family is the HMI solution with RISC architecture that allows running Premium HMI3 and Ubiquity software platforms.
Based on ARM Cortex A8 processor and Microsoft Windows Embedded Compact 7 (C7P) operating system, HMI30 is available in BASIC or ADVANCED version according to Premium HMI 3 runtime installed.
The systems can have standard (HMI30) or true flat (HMI30-TF) front frame.

2.2 Key features

- CPU ARM CORTEX A8
- Frontal IP 65
- O.S. Microsoft Windows Embedded Compact 7 (C7P) installed on flash memory.
- Data and programs are contained in two different flash disk devices.
- Asem Premium HMI software.
- Asem Ubiquity software.

2.3 Package

HMI30 package consists of:

Table 1 Package

HMI30 system	
User's guide CD	
Quick Installation guide	
n.10 Clamps with grub screw (depending of the LCD size)	
n.1 Power supply plug	
Premium HMI software CD	
Ubiquity software CD	

2.4 Configuration

The following figures show the various configurations.

2.4.1 HMI30 (full aluminium front panel)

Figure 1
HMI30 5.7"

HMI30	5.7"	Full aluminum front panel
	7.0" Wide	
	8.4"	
	10.4"	
	12.1"	
	15.0"	

2.4.2 HMI30-TF (aluminium front panel with true flat technology)

Figure 2
HMI30-TF 5.7"

HMI30-TF	5.7"	Aluminium front panel with True Flat technology
	7.0" Wide	
	8.4"	
	10.4"	
	12.1"	
	15.0"	

2.4.3 Main difference between full aluminium front panel and aluminium front panel with true flat technology

- The aluminium front panel has a “step” between the front panel and the touchscreen.

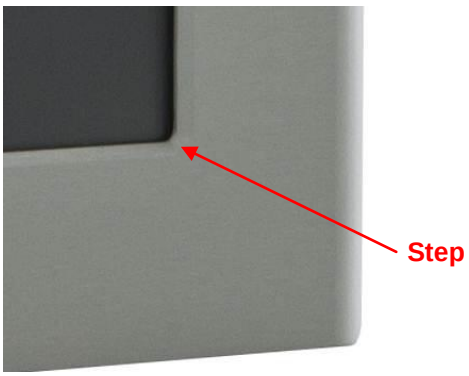


Figure 3
Front panel “Step” detail

- The front panel with true flat technology has no “step” between the front panel and the touchscreen, therefore it can be easily cleaned. The polyester top-film covers the resistive touchscreen up to the aluminium border.

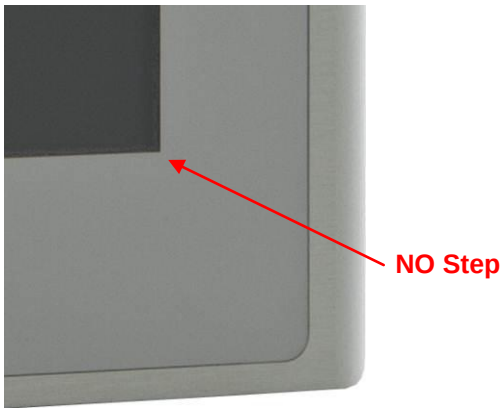


Figure 4
Front panel “No step” detail

2.5 Front view

2.5.1 Full aluminium front panel

Figure 5
Full aluminium front panel detail

1. Full aluminium front panel
2. Touchscreen display

2.5.2 Aluminium front panel with True Flat technology

Figure 6
Aluminium front panel with true flat technology detail

1. Aluminium front panel with top polyester film
2. Touchscreen display

2.5.3 Widescreen

In HMI30 family, the systems with 5.7” and 8.4” display have 4:3 aspect ratio, while the system with 7.0” display has 15:9 (wide) aspect ratio.
The 7.0” wide display provides 25% more area than the smaller 5.7” size.

HMI30 7.0” is available with aluminium front panel or true flat and widescreen.

2.5.3.1 Widescreen Full aluminium front panel

Figure 7
widescreen full aluminium front panel detail

1. Frame
2. Touchscreen display

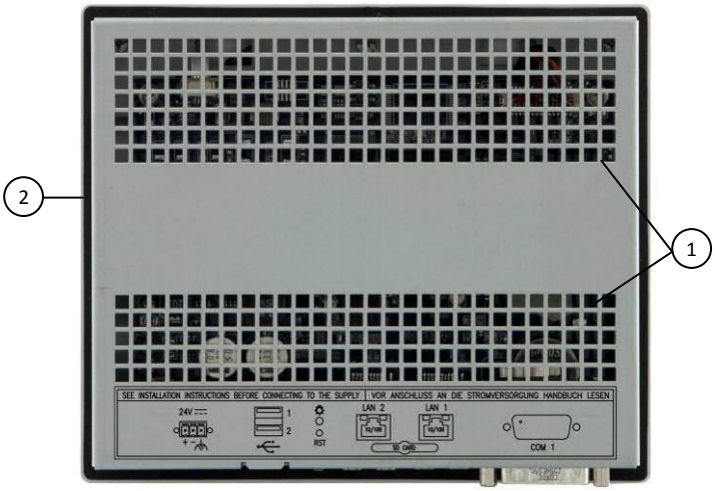
2.5.3.2 Widescreen aluminium front panel with True Flat technology

Figure 8
widescreen aluminium front panel with true flat technology detail

1. Frame
2. Touchscreen display

2.6 Rear view

Figure 9
HMI30 5.7" rear view



1. Ventilation holes
2. Mounting seal

Note: rear panels may be different depending on display size.

Figure 10
HMI30 7.0" rear view

7.0"

1. Ventilation holes
2. Mounting seal

Note: the user manual refers to HMI 5.7" version. Other versions will be discussed only when necessary.

Figure 11
HMI30 8.4" rear view

1. Ventilation holes
2. Mounting seal

2.7 Side view

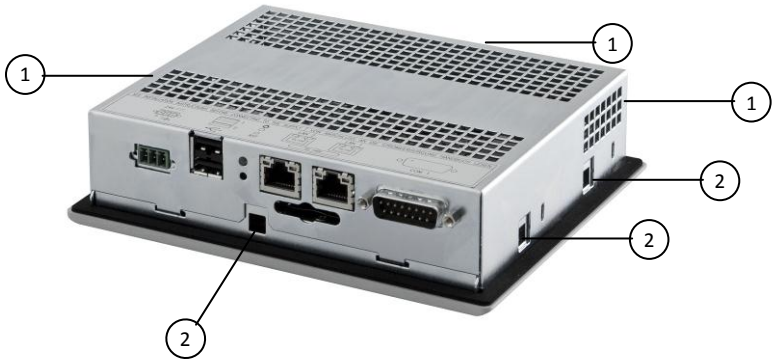


Figure 12
HMI30 5.7" side view

1. Ventilation holes
2. Recess for fixing clamps

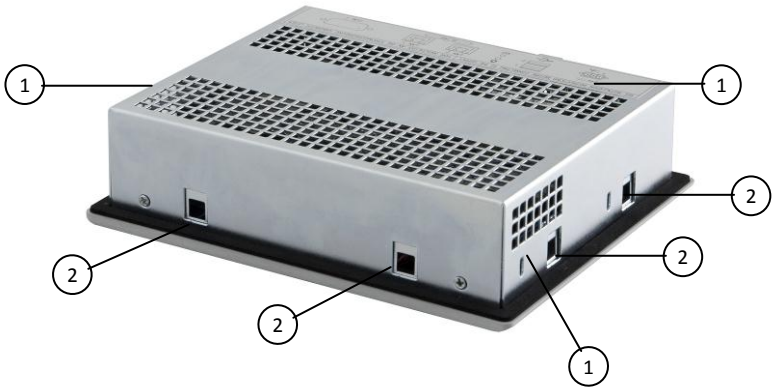


Figure 13
HMI30 5.7" side view

1. Ventilation holes
2. Recess for fixing clamps

2.8 Connector view

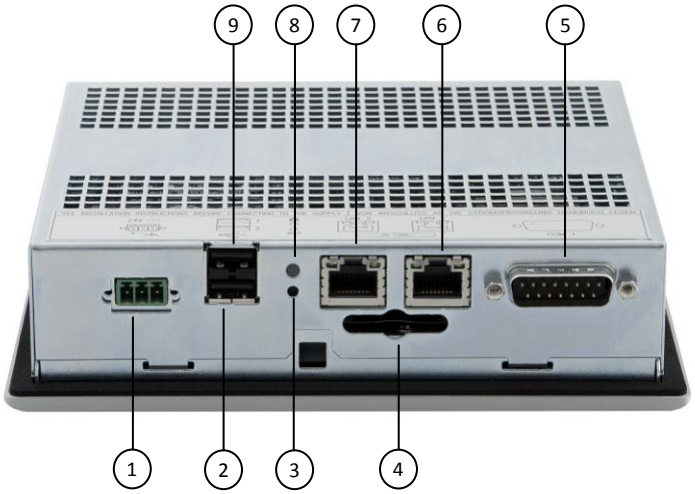


Figure 14
HMI30 5.7" connectors

1	Power DC input	6	LAN1 (10/100 Mbps) Fieldbus
2	USB2 (2.0)	7	LAN2 (10/100 Mbps) Ubiquity
3	Reset button	8	Power on LED
4	SD card slot	9	USB1 (2.0)
5	COM 1 (RS232/422/485 MPI)		

For detailed description refer to section 8.

2.8.1 Labels

On the rear panel are present the following the connectors label and the CE label.

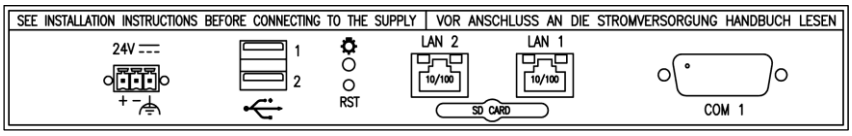


Figure 15
HMI30 connectors label detail

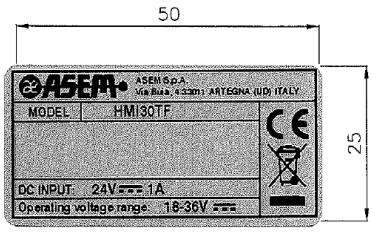


Figure 16
HMI30 CE label detail

2.9 Touchscreen

Table 2
Touchscreen

	Size	Touchscreen	Panel technology
Standard	5.7"	4 - wire	The touchscreen is installed from the back of the front panel. There is a step between the front panel and the touchscreen. The user touches directly the touchscreen.
	7.0" wide		
	8.4"	5 - wire	
	10.4"	5 – wire	
	12.1"	5 – wire	
	15.0"	5 – wire	
True Flat	5.7"	4 – wire	The touchscreen is fully planar with the aluminium front panel. No step. The touchscreen is covered by an overlay film (polyester) which is glued to the touchscreen with an optically clear adhesive (OCA) for improved optical performance
	7.0" wide		
	8.4"	5 – wire	
	10.4"	5 – wire	
	12.1"	5 – wire	
	15.0"	5 - wire	

2.10 Putting in operation HMI30

To put in operation HMI30 the followings two phases must be done:

- Configuration and creation of the project of HMI30.
- Process management.

2.10.1 Configuration and project creation

During the configuration phase, you create the user interfaces for operation and monitoring of the technical process by using a PC on which is installed Premium HMI development environment. Configuration also includes:

- Creating the project.
- Saving the project.
- Testing the project.
- Simulating the project.

After compiling the configuration, you load the project into the HMI30 device.

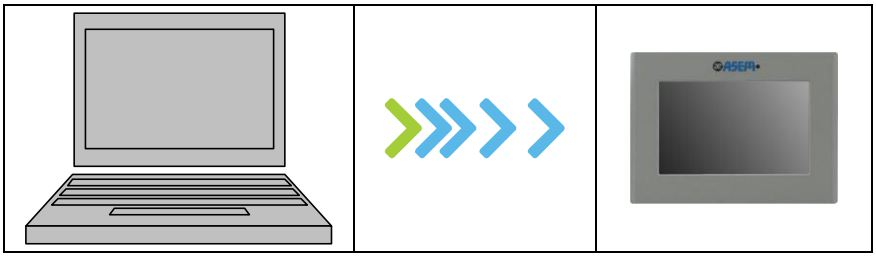


Figure 17
Configuration and project creation

2.10.2 Process management

Process management is a two-way communication between HMI device and PLC.

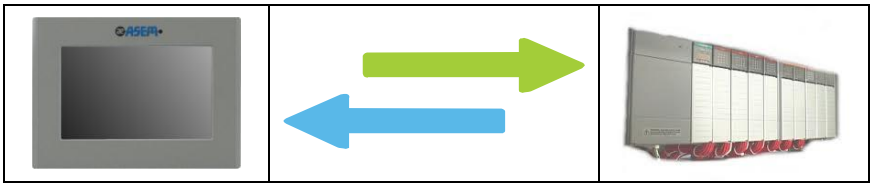


Figure 18
Process management

2.11 Software options

Table 3 Software options

Function	Premium HMI 3.0 BASIC for Win CE	Premium HMI 3.0 ADVANCED for Win CE
RealTime DB	Max. 512 bytes	Max. 4096 bytes
Scaling	Yes	Yes
ODBC Realtime	Yes	Yes
Trace DB	Yes	Yes
Data Structure	Yes	Yes
OPC Client DA	Yes	Yes
Networking	Yes	Yes

Table 4 Graphic interface

Graphic Interface		
Vectorial Graphic Editor	Yes	Yes
Support for BMP, GIF, JPG, WMF, EMF	Yes	Yes
Dynamic Animation	Yes	Yes
Symbols Library	Yes	Yes
Import/Export Symbols	Yes	Yes
Public Symbols	Yes	Yes
Power Templates (VBA Symbols)	Yes	Yes
Grid	Yes	Yes
Synapsis	Yes	Yes
Scheduler	Yes	Yes
Editing Menu	Yes	Yes
Style Source Management in Symbols	Yes	Yes
IP Camera Viewer	Yes	Yes
Alias management in Objects	Yes	Yes

Table 5 Alarm log

Alarm Logs	Max. 512 Alarms	Max. 2048 Alarms
Alarms Management	Yes	Yes
Historical Management (XML)	Yes	Yes
Historical Management (ODBC)	Yes	Yes
Alarms Notification (SMS, Email, Voice)	No	Yes
Alarms Area	Yes	Yes
Comments on alarm ACK	Yes	Yes

Table 6 Recipes – Data loggers

Recipes – Data Loggers		
Recipes / Data Logger (XML)	Yes	Yes
Recipes / Data Loggers (ODBC)	Max 2	Yes
Textual Report	Yes	Yes

Table 7 Trends

Trends		
Trend RealTime	Yes	Yes
Historical Trends on file .CSV	Yes	Yes
Historical Trends (linked to DataLogger XML)	Yes	Yes
Historical Trends Database (ODBC)	Yes	Yes
Data Analysis	Yes	Yes

Table 8 Users & Passwords

Users & Passwords		
Use 1024 levels	Yes	Yes
User Groups	Yes	Yes
CFR21	Yes	Yes
Runtime Users	Yes	Yes

Table 9
Dynamic multilanguage

Dynamic Multilanguage	Yes	Yes
Unicode support	Yes	Yes

Table 10
Drivers

Drivers		
Max. number of Driver	Max nr. 2	Max nr. 4
PLC Tag Importer	Yes	Yes

Table 11
Event Object

Event Object	Yes	Yes

Table 12
Scaling Object

Scaling Object	Yes	Yes

Table 13
Scheduler Object

Scheduler Object	Yes	Yes

Table 14
Logics

Logics		
IL Logic (Step5-Step7)	Yes	Yes
VBA Logic (WinWrap Basic)	Yes	Yes
Sinapsis Logic	Yes	Yes

Table 15
Networking

Networking	Yes	Yes

Table 16
Child Projects

Child Projects	Yes	Yes

Table 17
Software options

Screen Navigation	Yes	Yes

Table 18
Visual studio source safe 2005 integration

Visual Studio SourceSafe 2005 Integration	Yes	Yes

Table 19
Web server

Web Server	No	Yes (Max 2 clients)

Table 20
Touch Screen Support

Touch Screen Support	Yes	Yes

Table 21
Cross Reference

Cross Reference	Yes	Yes

Table 22
Debugger

Debugger	Yes	Yes

SECTION **3**

Installation and connection

3.1 Preparation for installation

3.1.1 Select the mounting location

Points to observe when selecting the mounting location:

a) Position HMI30 to avoid exposure to direct sunlight.
b) Position HMI30 such that it is ergonomically accessible for the operator.
c) Choose a suitable mounting height.
d) Ensure that the ventilation holes are not covered.

3.2 Checking the package contents

Note:
please refer to paragraph **2.3 Package**.

- Check the package content for visible signs of transport damage and for completeness.
- In the case of damaged parts, contact your ASEM representative. Do not install parts damaged during shipment.

3.3 Checking the operating conditions

- Read carefully the standards, approvals, EMC parameters and technical specifications for operation of the HMI device. This information is available in the following sections:
  - Certificates and approvals (see section 8).
  - Electromagnetic compatibility (see section 8).
- Check the mechanical and climatic ambient conditions for operation of the HMI device: Ambient conditions (see section 8).
- Follow the instructions for local use of the HMI device: Notes about usage.
- Adhere to the permissible rated voltage and the associated tolerance range:
  - 24V
  - Range: 18÷36 V_{DC}

3.4 Mounting position

The HMI device is suitable for installation in:

- Mounting cabinets
- Control cabinets
- Switchboards
- Consoles

3.4.1 Damage due to overheating

- The operative temperature must be between 0° and 50°C.
- All HMI systems are designed for vertical mounting position.
- An inclined installation reduces the thermal convection by the HMI device and the maximum permissible ambient temperature for operation. Please contact ASEM for details.
- The HMI device may otherwise be damaged and its certifications and warranty will be void.

Note:
For installation in control cabinets and, in particular, in closed containers, make sure the recommended ambient temperature is maintained.
For further details please refer to section 8.1 Technical specifications.

Figure 19
Mounting position

3.5 Checking installation distances

To ensure adequate ventilation it is necessary leaving the following open spaces around the system:

- **X** direction 15 mm (min.) for each side.
- **Y** direction 50 mm (min.) for each side.
- **Z** direction 10 mm (min.).

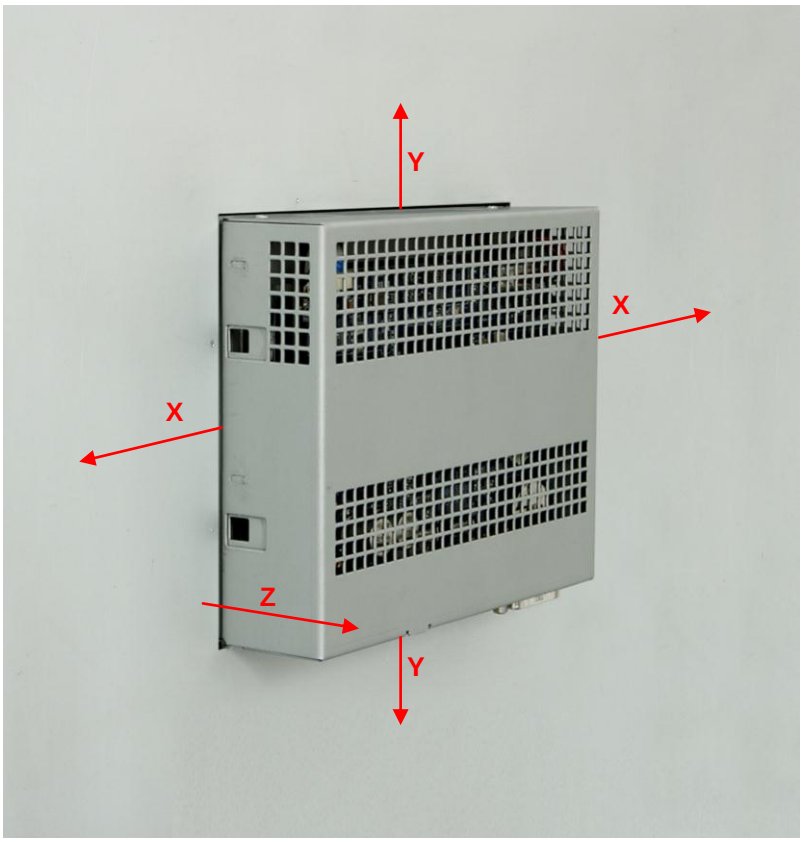


Figure 20
Installation distances

3.6 Preparing the mounting cut-out

In order to ensure a proper mounting of the system, the material of the mounting cut-out must be sufficiently stable.
To obtain the degree of protection described below, the material of the mounting panel must not deform due to the use of clamps on the operator panel.

3.6.1 Degrees of protection

The degrees of protection of the system are guaranteed only if the following conditions are satisfied:

- Material thickness at the mounting cut-out for IP65 protection: 2mm to 4 mm.
- Deviations of the plane of the mounting cut-out limits: ≤ 0.5 mm.
  This condition must be satisfied even when the HMI30 is installed.
- Allowed surface roughness in the area of the seal: ≤ 120 microns (Rz 120).

3.6.2 Cut-out measures

3.6.2.1 5.7" cut-out

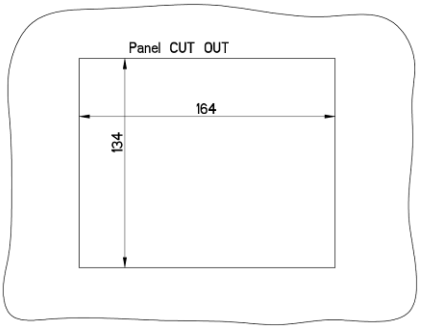


Figure 21
HMI30 5.7" cut-out

3.6.2.2 7.0" wide cut-out

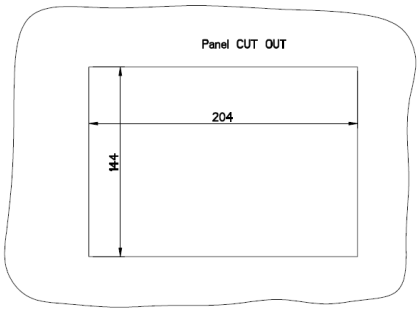


Figure 22
HMI30 5.7 cut-out"

3.6.2.3 8.4" cut-out

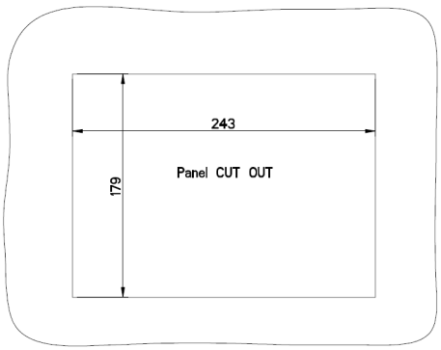


Figure 23
HMI30 5.7" cut-out

3.6.2.4 10.4” cut-out

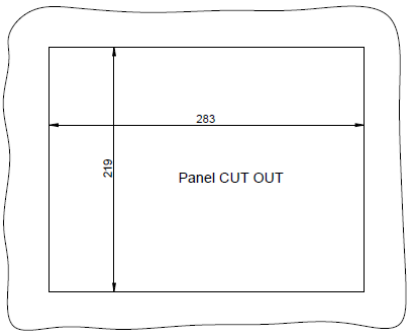


Figure 24
HMI30 10.4 cut-out”

3.6.2.5 12.1” cut-out

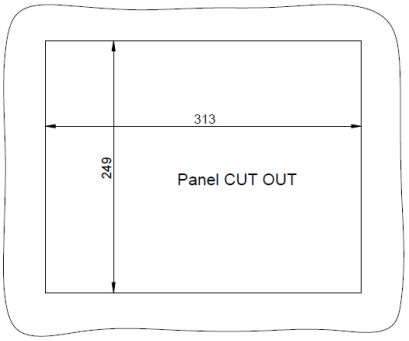


Figure 25
HMI30 12.1 cut-out”

3.6.2.6 15.0” cut-out

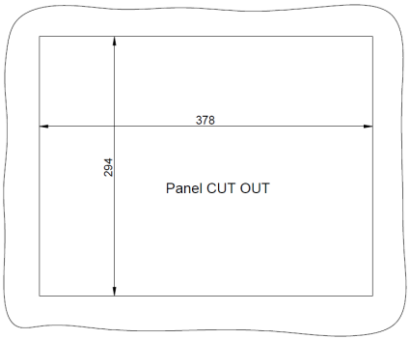


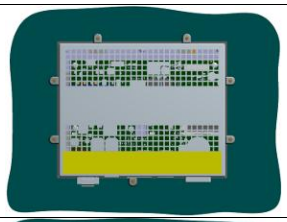
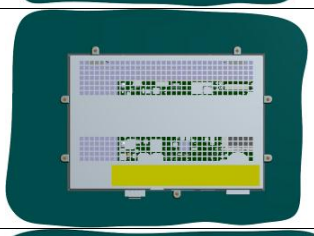
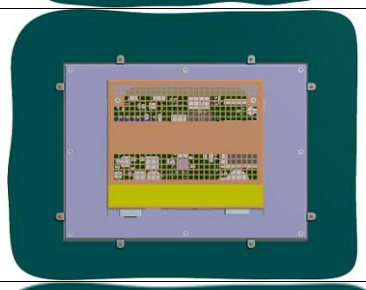
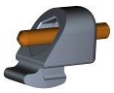
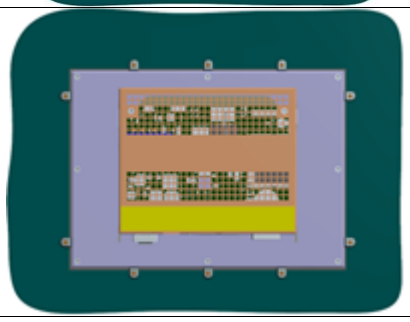
Figure 26
HMI30 15.0 cut-out”

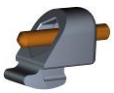
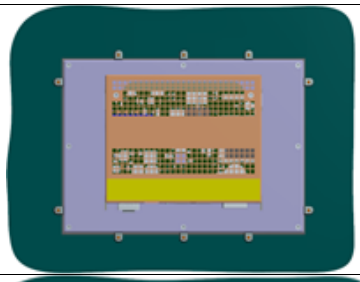
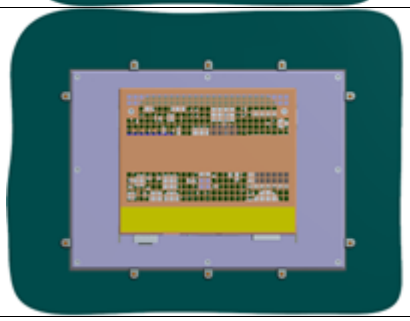
3.7 Mounting the device

3.7.1 Position of the mounting clamps

- To obtain the declared degree of frontal protection for the system, it is necessary to respect the positions of the clamps shown below.
- The table below shows the number and the position of the clamps for each HMI30 size.

Table 23
Position of the mounting clamps

System	Clamp	Quantity	Clamp position
HMI30 / HMI30-TF 5.7"		7	
HMI30 / HMI30-TF 7.0"		7	
HMI30 / HMI30-TF 8.4"		8	
HMI30 / HMI30-TF 10.4"		10	

HMI30 / HMI30-TF 12.1”		10	
HMI30 / HMI30-TF 15.0”		10	

3.7.2 Tools to tighten the mounting clamps

- 1.5 mm hexagonal key.

3.7.3 Procedure

1. Insert HMI30 into the mounting cut-out from the front.

Figure 27
Installation

Figure 28
Installation

Figure 29
Installation

2. Insert the fixing clamps into the housings of the device.

Figure 30
Installation

Figure 31
Installation

3. Tighten the fixing clamps with a 1.5 mm hex key.

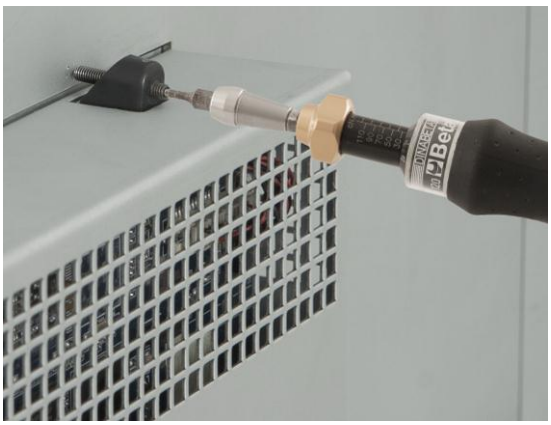


Figure 32
Installation

Note:
adhere to the permissible torque when tightening the threaded pin of the mounting clamp: **0.2 Nm**.

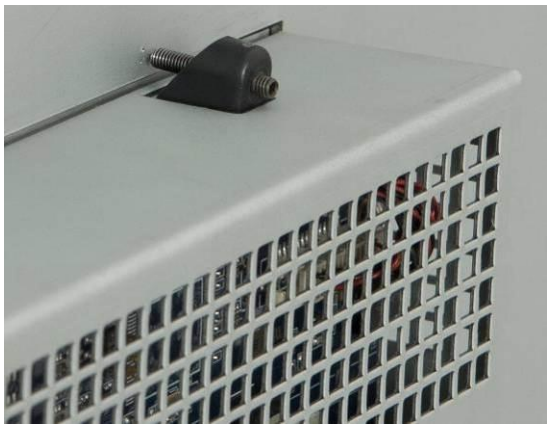


Figure 33
Installation

4. Repeat steps 2 and 3 for all mounting clamps.
5. Check the seal seat.

3.8 Connecting the device

3.8.1 Notes on connection

- HMI30 must be installed in accordance with the indications contained in this operating instructions.

3.8.2 Grounding and bonding

- Whenever two pieces of equipment connected to each other are far apart, it is possible that their ground connections could be at a different potential level. The data cable screens connecting the equipment's chassis on one end and the HMI's chassis on the other end can therefore be subject to a high current circulation capable of destroying the interface. To overcome this hazard such current must be steered away from the interface. To achieve this goal the following methods can be used:

1. Use an equipotential bonding cable (16mm^2) to connect the equipments' ground to the HMI's ground.
2. Connect the data cable screens to the equipotential bonding rail on both sides before connecting the cable to the interfaces.

3.8.3 Power supply connection

⚠ Attention: the system must be powered with a voltage of 24V (18V÷36V).

The device may only be connected to a 24V ⎓ (maximum permissible operating voltage range 18V to 36V) power supply which satisfies the requirements of safe extra low voltage (SELV) in accordance with IEC/EN/DIN EN/UL60950-1.

The power supply has to fulfil the requirements NEC Class2 or LPS in accordance with IEC/EN/DIN EN/UL60950-1

Connect the device with a cable cross-section of 0.75 – 1.5 mm^2 (AWG18 to AWG16).

- Remove the three poles connector from the system.
- Connect the positive pole, the negative and the ground one (also refer to the label on the back of the system) to the respective terminals of the three pole connector.

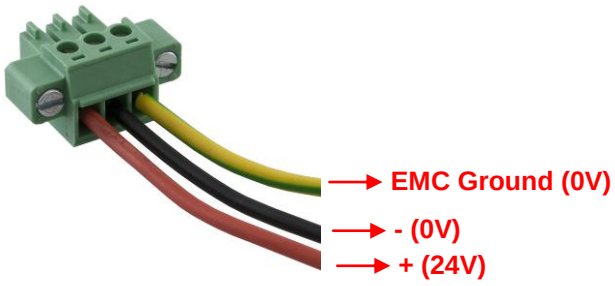


Figure 34
Power supply connection detail

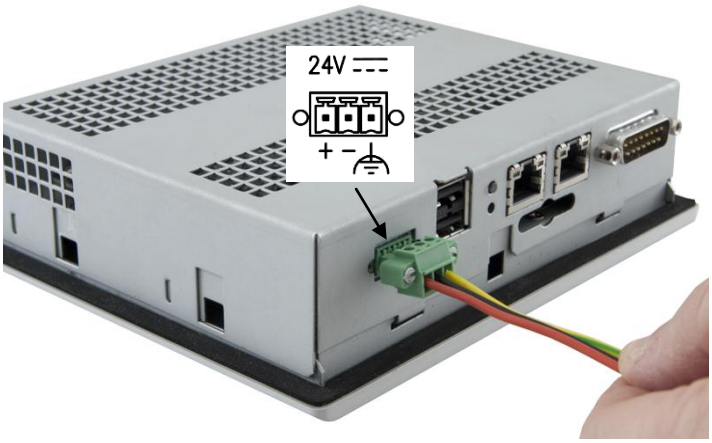


Figure 35
Power supply connection detail

3.8.4 Switching on and testing the HMI Device

Connect the power supply cable to HMI30. Switch On the power supply. The green led will light.

Figure 36
Power supply connection detail

The display will switch on accordingly, and after few seconds the Windows CE desktop will appear.

3.9 Connecting the configuration PC

You can connect the configuration PC to HMI30 in several ways:

1) By using a Ethernet cross cable connected by one end to the configuration PC and on the other end to one of two Ethernet ports of HMI30.
2) By connecting HMI30 to a Ethernet switch on which the configuration PC and HMI30 are both connected
3) By connecting HMI30 and the configuration PC to the office LAN

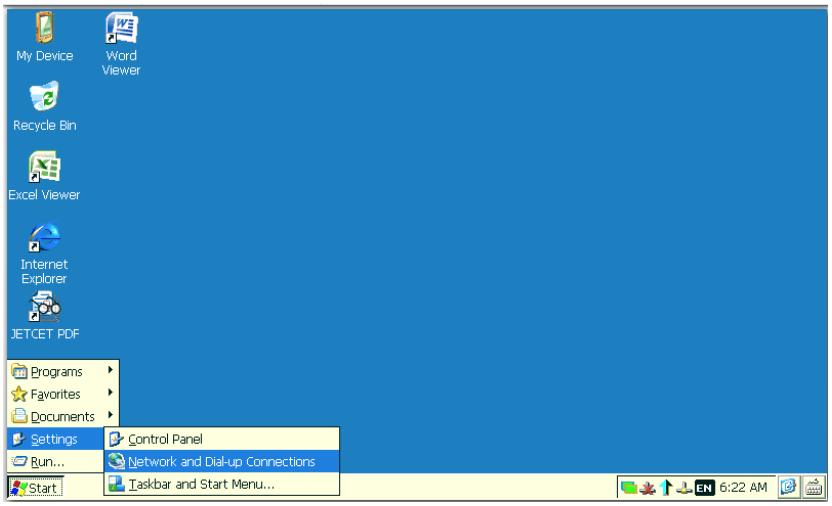
Please note that HMI30 comes with DHCP service enabled. It means that in case of the point 3 above it is enough to connect HMI30 in LAN and the DHCP server of the LAN will assign automatically an IP address to HMI30.

In case there is not a DHCP server available, you must assign a static IP address to HMI30 compatible with the IP address of the configuration PC.

For Example if the PC has IP address 172.17.17.20 you must configure for example HMI30 with the IP address 172.17.17.182. To configure the IPC address in the panel you must:

- Click on the start Button, select “Settings” -> “Network and Dial-up Connections”

Figure 37
Connecting the configuration PC



- According to the Ethernet port you want to configure choose the port to configure according to the table:

Table 24
Connecting the configuration PC

LAN port on HMI30	LAN Connection in control panel
LAN1	General purpose
LAN2	Ubiquity

- For instance if you need to configure LAN1 double click on FEC1, Click on “Specify an IP address” and write the IP address and default Gateway like in the figure below

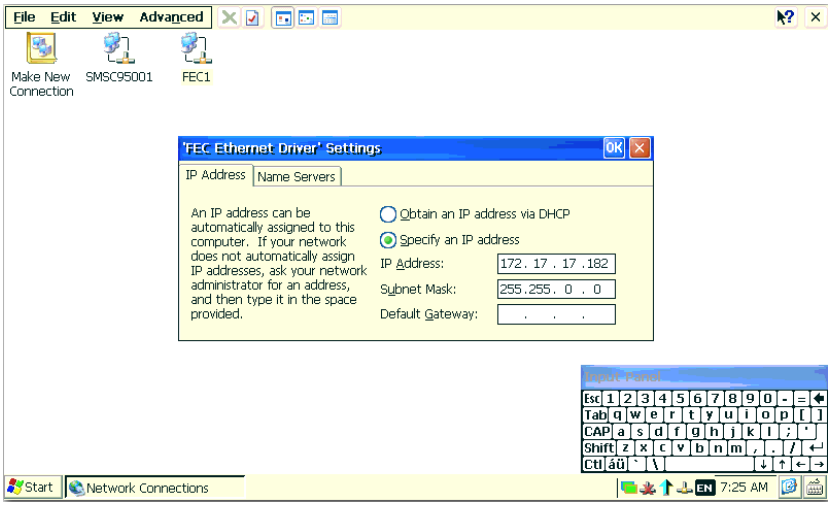

File Edit View Advanced
Make New Connection
SMSC95001
FEC1
'FEC Ethernet Driver' Settings
OK
IP Address
Name Servers
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space provided.
Obtain an IP address via DHCP
Specify an IP address
IP Address: 172 . 17 . 17 .182
Subnet Mask: 255.255. 0 . 0
Default Gateway:
Start
Network Connections
7:25 AM

Figure 38
Connecting the configuration PC

- Click on Ok to save the settings.
- Click on the "Start" button and select "Settings" -> "Control Panel"

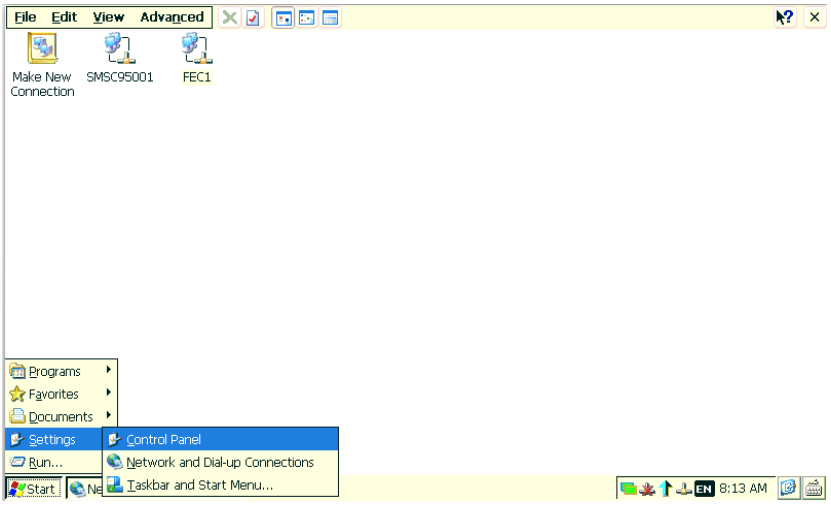


Figure 39
Connecting the configuration PC

- Then double click on “Registry Saver”

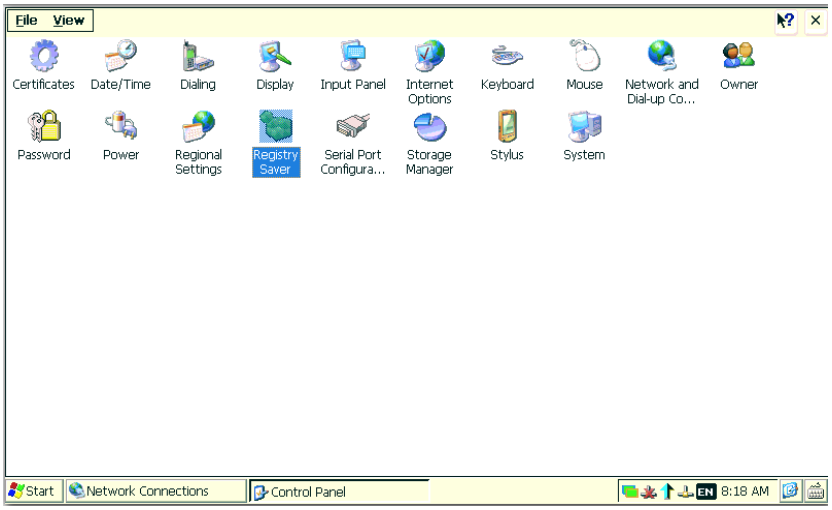


Figure 40
Connecting the configuration PC

- Click on the “Save” button and confirm clicking on “Ok”. This operation will save your setting in a permanent way.

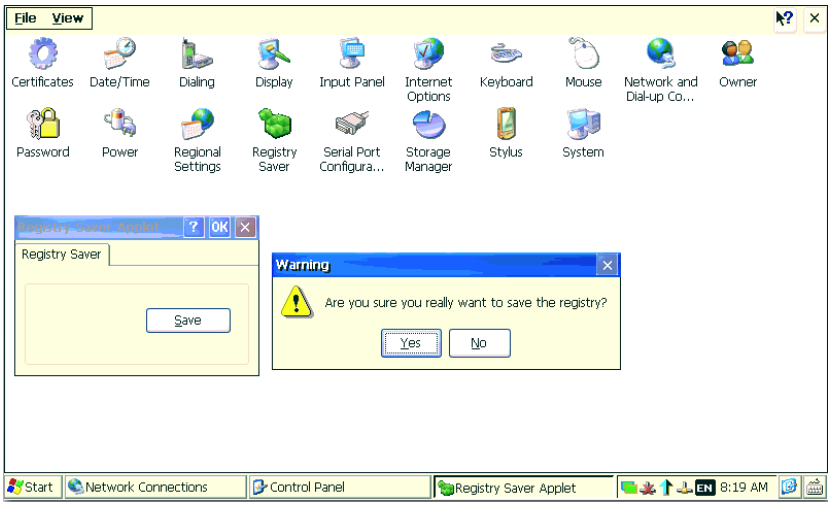


Figure 41
Connecting the configuration PC

3.9.1 Procedure

After the connection between HMI30 and the configuration PC, to transfer the project into HMI30 you must:

- Start Premium HMI Developing tool.
- Load the project to transfer.
- Click on the transfer icon (see picture below).

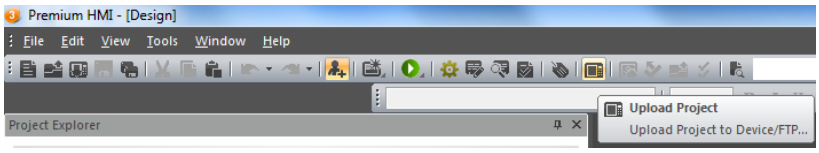


Figure 42
Connecting the configuration PC

The following window will appear:

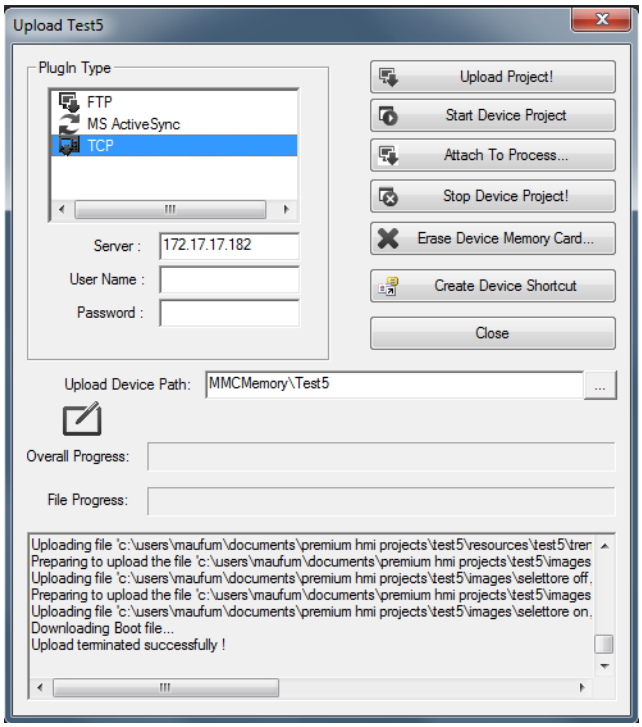


Figure 43
Connecting the configuration PC

Attention: please transfer the project into the MMC Memory or into the SD card. This allows you not to loose its content when HMI30 will be switched off.
To transfer the project into the MMC Memory, you must specify MMCMemory (like in the example of the picture above).

- Select TCP in the upper left list.
- Write the IP address of HMI30
- Choose where to download the project into HMI30 specifying the "Upload Device Path".

- To transfer the project to HMI30 click on the button "Upload Project!".

There is another possibility to transfer the project to the panel. It is by using an USB key.

- Copy from the configuration PC to the USB Key the folder in which is stored the HMI30 project.
- Insert the USB Key into HMI30
- Copy the project folder from the USB Key to the MMC memory.

Table 25
Procedure

Note: the name of the memory card are according to the following table:

Memory	Name used by Windows Explorer	Note
NAND	NANDFlash	Internal memory used to store the operating system. It is a read only memory.
MMC	MMCMemory	Memory to store data and executables. Read and Write memory.
SD	SDMemory	Removable Memory. Read and Write memory.
USB Key	Hard Disk	USB key inserted into a USB port of HMI30.

In the picture below an example of file Explorer on HMI30.

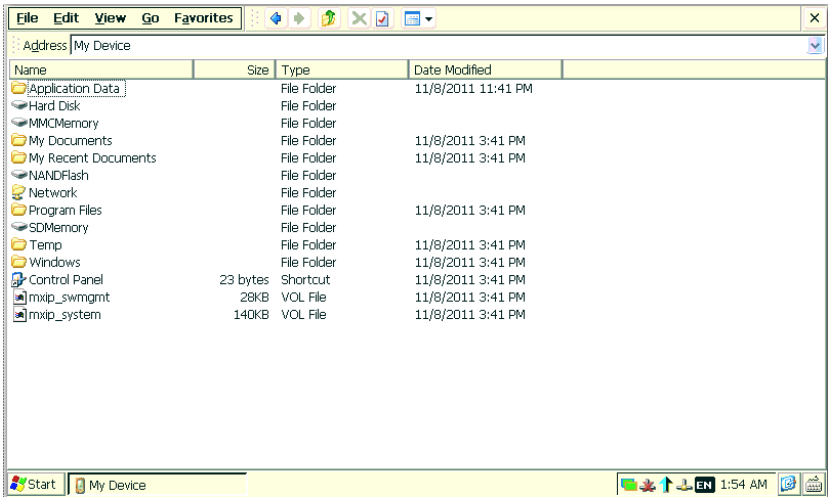

File Edit View Go Favorites
Address My Device
Name Size Type Date Modified
Application Data File Folder 11/8/2011 11:41 PM
Hard Disk File Folder
MMCMemory File Folder
My Documents File Folder 11/8/2011 3:41 PM
My Recent Documents File Folder 11/8/2011 3:41 PM
NANDFlash File Folder
Network File Folder
Program Files File Folder 11/8/2011 3:41 PM
SDMemory File Folder
Temp File Folder 11/8/2011 3:41 PM
Windows File Folder 11/8/2011 3:41 PM
Control Panel 23 bytes Shortcut 11/8/2011 3:41 PM
mxip_swmgmt 28KB VOL File 11/8/2011 3:41 PM
mxip_system 140KB VOL File 11/8/2011 3:41 PM
Start
My Device
EN 1:54 AM

Figure 44
Connecting the configuration PC

SECTION **4**

Commissioning the device

4.1 Backup design

HMI30 comes as standard with 2 memories: a NAND Flash and a e-MMC memory. The purpose of the NAND memory is to store the boot loader (used during the start-up of HMI30), the operating system and all the executable needed to HMI30. Writing to the NAND memory can be switched ON and OFF by means of a special program in order to protect the integrity of the date stored into the NAND memory.
The e-MMC memory can be used to store other data, like process data or other executable. It is not possible to disable writing into eMMC. You can always read and write the eMMC memory. The purpose of this memory is to store data produced during the running of the machine or plant supervised by HMI30.

4.2 Internal memory

The NAND memory, as default is read only. In this way is protected from losses of data, but the NAND memory can be made writable.

To make the NAND memory writable you must go into the Windows folder of HMI30 and click on MakeNANDWritable (see picture below). In this way you can store some exe you want to keep safe. After the operation you can make the NAND memory read only as before.

To make the NAND memory read only you must go into the Windows folder of HMI30 and click on MakeNANDReadOnly (see picture below)

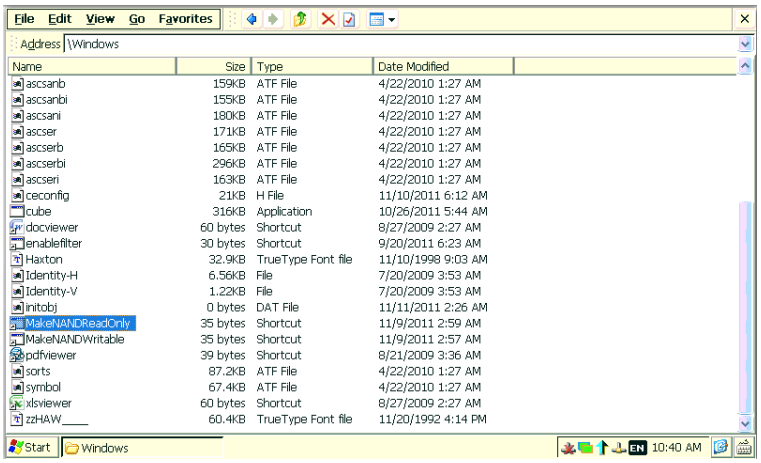

File Edit View Go Favorites
Address \Windows
Name Size Type Date Modified
ascsanb 159KB ATF File 4/22/2010 1:27 AM
ascsanbi 155KB ATF File 4/22/2010 1:27 AM
ascsani 180KB ATF File 4/22/2010 1:27 AM
ascser 171KB ATF File 4/22/2010 1:27 AM
ascserb 165KB ATF File 4/22/2010 1:27 AM
ascserbi 296KB ATF File 4/22/2010 1:27 AM
ascseri 163KB ATF File 4/22/2010 1:27 AM
ceconfig 21KB H File 11/10/2011 6:12 AM
cube 316KB Application 10/26/2011 5:44 AM
docviewer 60 bytes Shortcut 8/27/2009 2:27 AM
enablefilter 30 bytes Shortcut 9/20/2011 6:23 AM
Haxton 32.9KB TrueType Font file 11/10/1998 9:03 AM
Identity-H 6.56KB File 7/20/2009 3:53 AM
Identity-V 1.22KB File 7/20/2009 3:53 AM
initobj 0 bytes DAT File 11/11/2011 2:26 AM
MakeNANDReadOnly 35 bytes Shortcut 11/9/2011 2:59 AM
MakeNANDWritable 35 bytes Shortcut 11/9/2011 2:57 AM
pdfviewer 39 bytes Shortcut 8/21/2009 3:36 AM
sorts 87.2KB ATF File 4/22/2010 1:27 AM
symbol 67.4KB ATF File 4/22/2010 1:27 AM
xlsviewer 60 bytes Shortcut 8/27/2009 2:27 AM
zzHAW____ 60.4KB TrueType Font file 11/20/1992 4:14 PM
Start
Windows
EN 10:40 AM

Figure 45
Commissioning the device

4.3 Slot for memory card

HMI30 can optionally accommodate an SD/SDHC card slot V. 2.0 (push-push type).

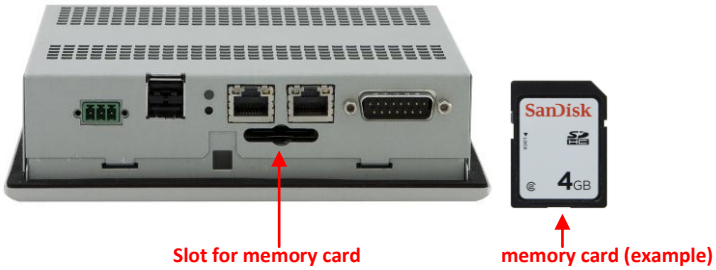


Figure 46
Slot for memory card

4.4 Installation/removal of a memory card

- Insert the memory card into the slot as indicated in the figure. Pay attention to the beveled edge.

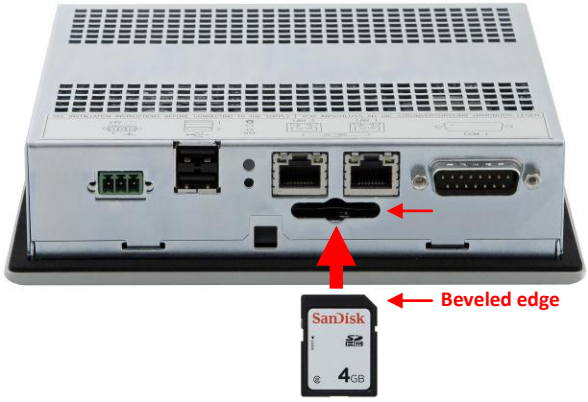


Figure 47
Slot for memory card

- Push the card all the way.

Figure 48
Slot for memory card

⚠ Attention: potential data loss
Do not remove the memory card while data is being accessed. Data on the memory card is lost if you attempt to remove it while HMI30 is accessing its data.

⚠ Attention: removing the system memory card while the project is running. If you remove memory card while a project is running, the project may stop.

Figure 49
Slot for memory card

- Push the card previously inserted.

Figure 50
Slot for memory card

- Extract the memory card from the slot.

Figure 51
Slot for memory card

SECTION **5**

Commissioning a project

5.1 Overview

Configuration phase
A project includes screen, alarms, variables used to represent the real plant of machine. The configuration phase is the creation of the project according to the user needs and interaction between the humans and the machine.

Transferring the project to HMI30
You can transfer a project to HMI30 as follows:
● Transfer from the configuring PC by using an Ethernet connection
● Copy the Project by using a USB key

Process control phase
After the project is transferred, HMI30 is ready to communicate to one or more PLC and to visualize the screens according to the configured project.
ATTENTION: if you need to communicate with a device connected to the serial port you must configure the serial port. See chapter 5.3.

Commissioning and re-commissioning
When you switch on the first time HMI30, there is no project inside. At first you need to transfer a project into HMI30.
After you download a project you can retransfer another project or another version of the same project without any special operation, also while the project is running on HMI30.

5.2 Transfer

HMI30 is always ready for accepting the download of a project, even when a project is running. In this way, if HMI30 is connected by means of Ethernet to the configuration PC, you are able to download a new project or a new version of the same project even without stopping the project. (see Chap. 3.10.1)

5.3 Configuring the serial port

If your project need to communicate with a device connected to the serial port, you need to configure the serial port according to the type of serial connection you use for your communication. The following types of communications are supported by the serial port of HMI30:

- RS 232
- RS 422
- RS 485

HMI30 comes as default with the serial port set as RS 232. If you want to change the type of serial communication you must do the following:

Go in control panel

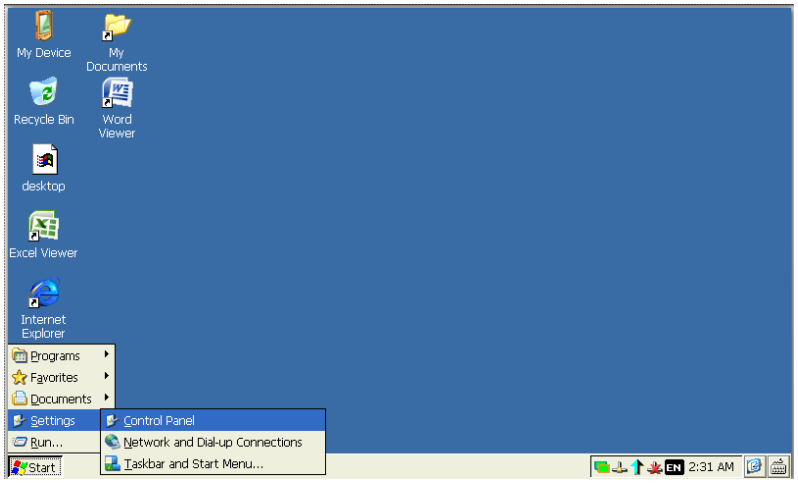


Figure 52
Configuring the serial port

Double click on "Serial Port Configuration"

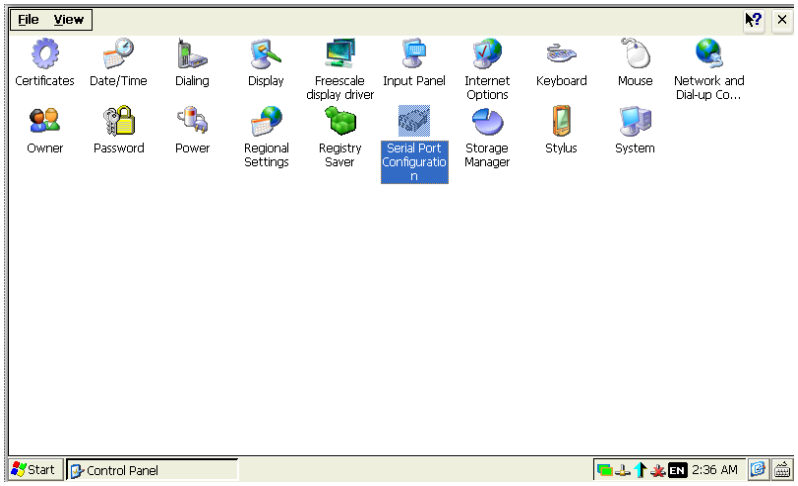


Figure 53
Configuring the serial port

Choose the type of serial communication

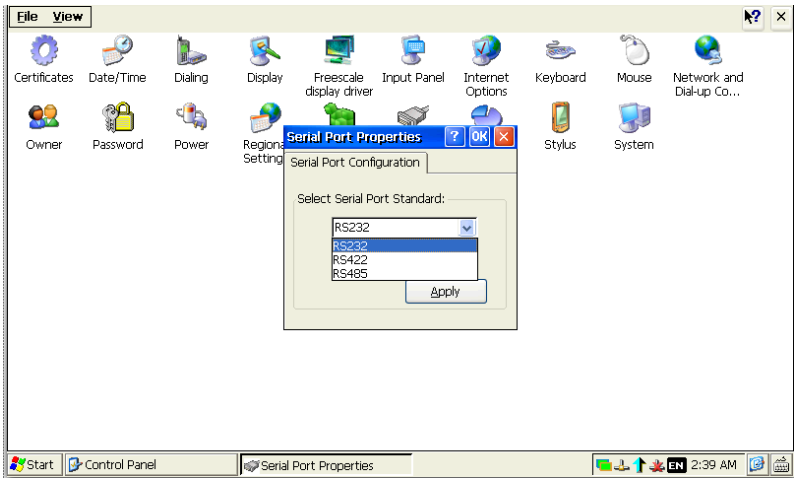


Figure 54
Configuring the serial port

And confirm by pressing the “Apply” button. A warning message will raise, advising to store that new configuration is active and saved a permanent way.

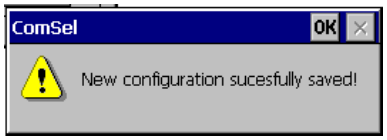


Figure 55
Configuring the serial port

This applet can be used just to check which serial communication mode is active; in this case it is enough to push the “red cross” on the high right side of the panel (fig 54).

Please note that MPI mode cannot be selected: when this protocol will be used by HMI software all required settings will be applied automatically.

5.3.1 Connecting the serial port

A unique DB15 male connector hosts all serial protocols (please check par. 7.4 for pin-out details) so it is necessary to adapt this connection to plant needs; Asem can supply connector adapters as optional parts but user can adapt DB15 connector by himself.

For further details please contact ASEM

5.4 Managing the project

HMI30 has powerful tools to manage a running project. With the same mask used to transfer the project (see below) you can also:

1. Stop the HMI30 project from the configuration PC
2. Start the HMI30 project from the configuration PC
3. Debug the project from the configuration PC
4. Transfer the project from HMI30 to the configuration PC.

5.4.1 Stopping the running project

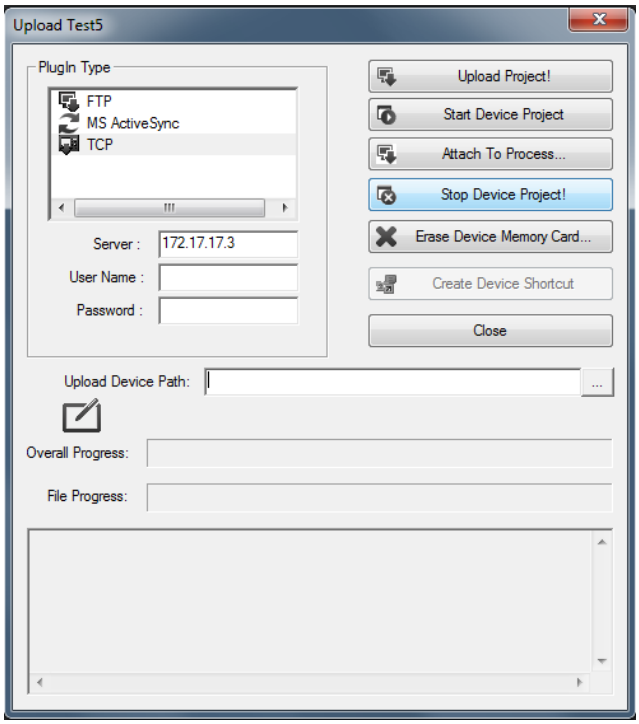


Figure 56
Stopping the running project

To stop a project running in HMI30 you must:

5. Select TCP in the upper left list
6. Write the IP address of HMI30
7. Click on the button "Stop Device Project!"

You will see the project in HMI30 stopping (see below)

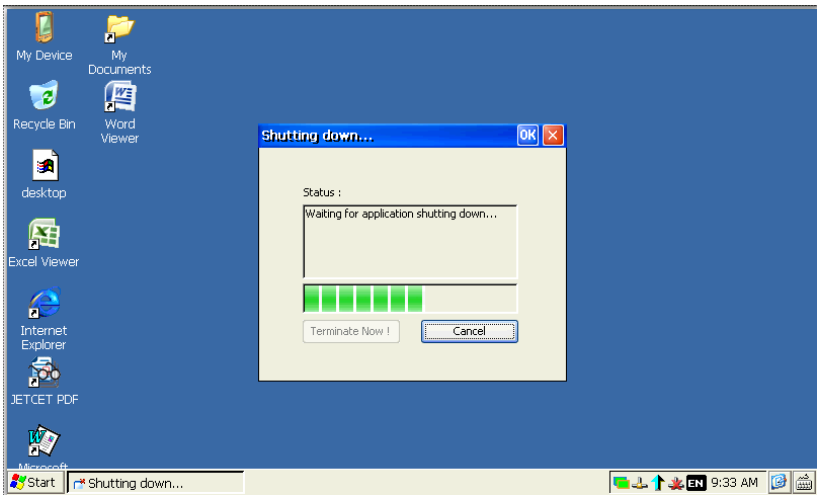


Figure 57
Stopping the running project

5.4.2 Starting the project

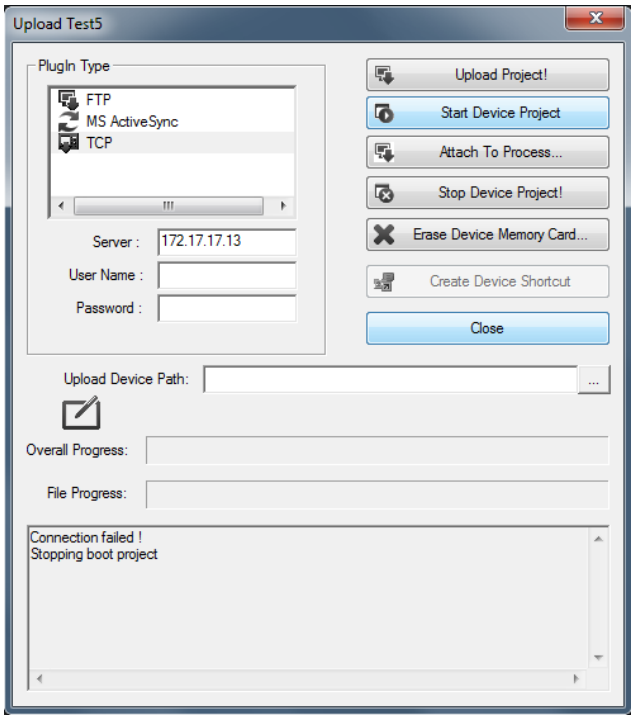


Figure 58
Starting the project

To start a project in HMI30 by using the configuration PC you must:

8. Select TCP in the upper left list
9. Write the IP address of HMI30
10. Click on the button “Start Device Project”

You will see the HMI30 project starting (see below).

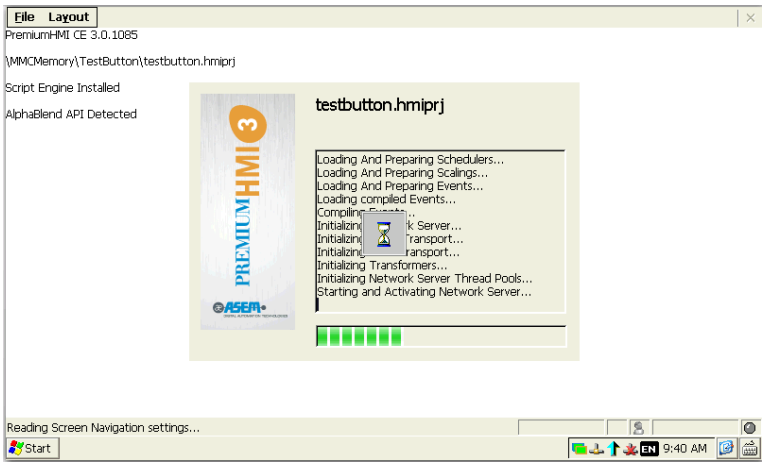


Figure 59
Starting the project

If there isn’t a project in HMI30 you will have an error

5.4.3 Debugging the project

You can debug the project in HMI30 by connecting with the configuration PC. In order to be able to use the debugging functionality you must prepare your project as follows:

1. Select "Networking" in the project explorer window of Premium HMI
2. Enable the property "Debugger" in the Properties window of Premium HMI

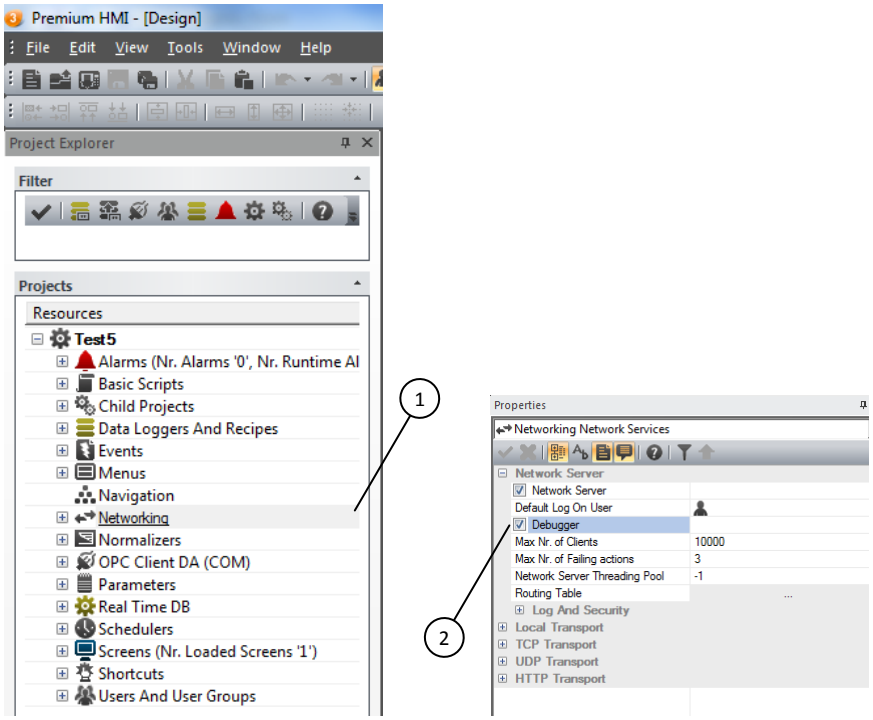


Figure 60
Debugging the project

Transfer the project to HMI30 and make it running.
NOTE: Be sure that the project is running otherwise you cannot debug the project

To debug the project running in HMI30 from the configuration PC you must:

1. Select TCP in the upper left list
2. Write the IP address of HMI30

Click on the button "Attach To Process…"

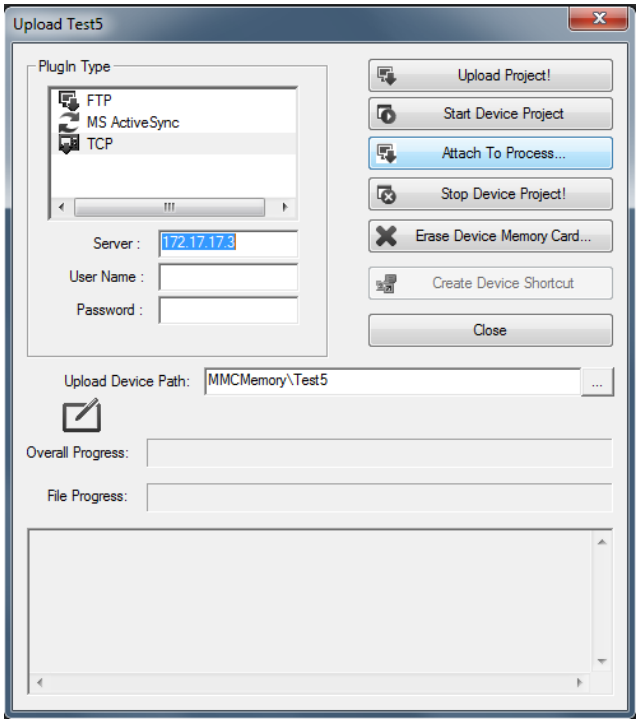


Figure 61
Debug the project

The following window will appear

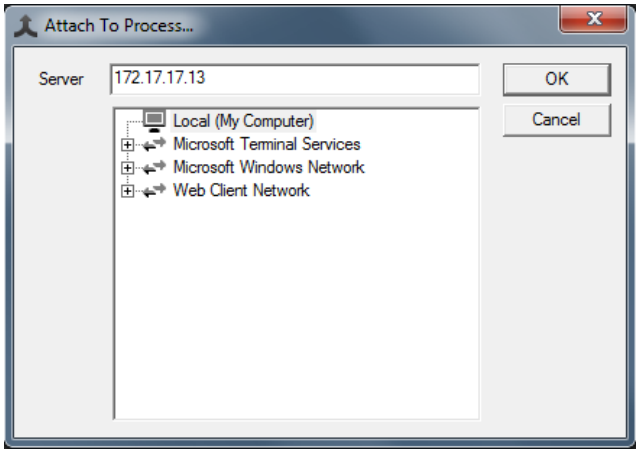


Figure 62
Debug the project

Write the IP address of HMI30 and click on the “OK” button. A new windows asking for user and password will appear

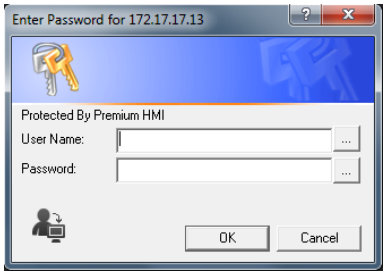


Figure 63
Debug the project

In case the project is not protected, just click on the "OK" button, otherwise insert the name and password of a project user that has the rights to change the project.

You will see that a debug session will start in Premium HMI on the configuration PC. Now you are able to:

- See the project screens and navigate between them. Please note that you can see different screen from those seen on HMI30 and that your debugging is not affecting the normal running of HMI30 project
- See and change the value of the variables
- Put breakpoint and debug Visual Basic scripts running in the project

5.4.4 Trasfer the project from HMI30 to the configuration PC

This option allows you to transfer the project from HMI30 to the configuration PC in order to check or change and hence transfer again into HMI30.

Hint: It is always suggested to protect the project with a password in order to don't allow changes to the project by not authorized users.

Be sure that the project is not running on HMI30, run Premium HMI on the configuration PC, click on the "File" menu and select "Open Device Project…"

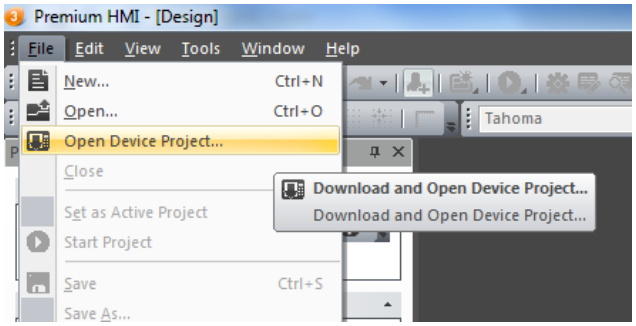


Figure 64
Debug the project

1. Select TCP in the upper left list
2. Write the IP address of HMI30
3. Write the path on which you want to store the project on your configuration PC
4. Click on the button "Get Project from Device!"

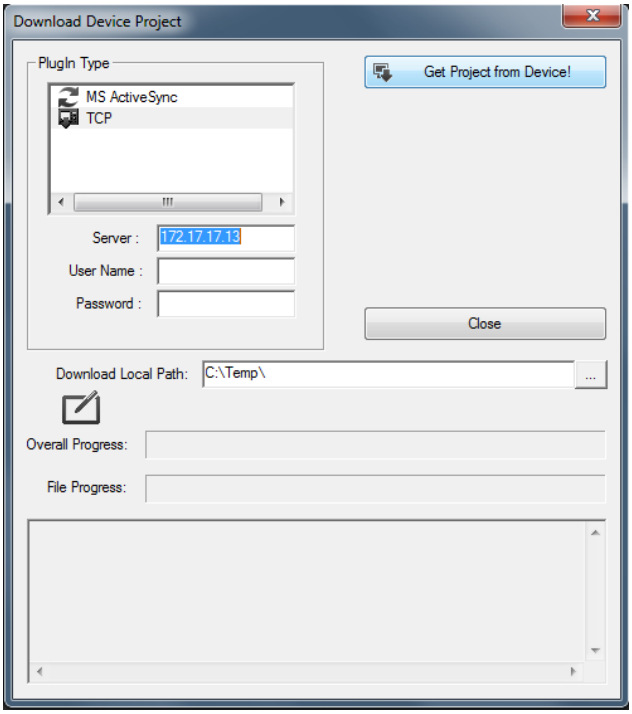


Figure 65
Debug the project

After the transfer of the project you will see the project explorer containing the project resources in Premium HMI and you will able to check, test and change the resources of the project

5.5 Backup and restore

HMI30 has tools to backup and restore the contents of its internal memory in order to manage the project and the operating system of HMI30. For more information please contact the support center of ASEM.

5.6 Updating the operating system

Please contact the support center of ASEM.

SECTION **6**

Maintenance and care

6.1 Calibration of the touchscreen

HMI30 is designed to don't require touchscreen calibration, but in some cases, like update of the operating system, you must recalibrate the touch screen.

To calibrate the touch screen:

- Go in control panel.

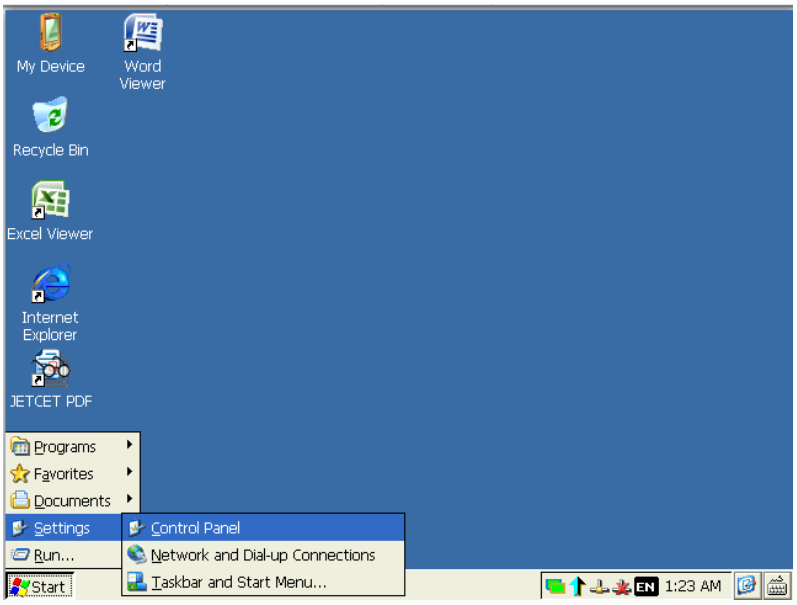


Figure 66
Calibration of the touchscreen

- Open the "Stylus" application.

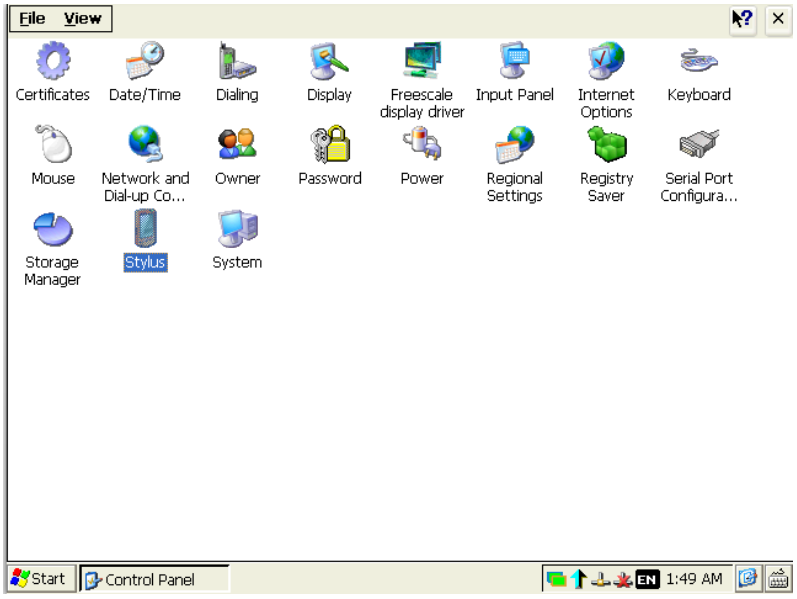


Figure 67
Calibration of the touchscreen

The following window will appear.

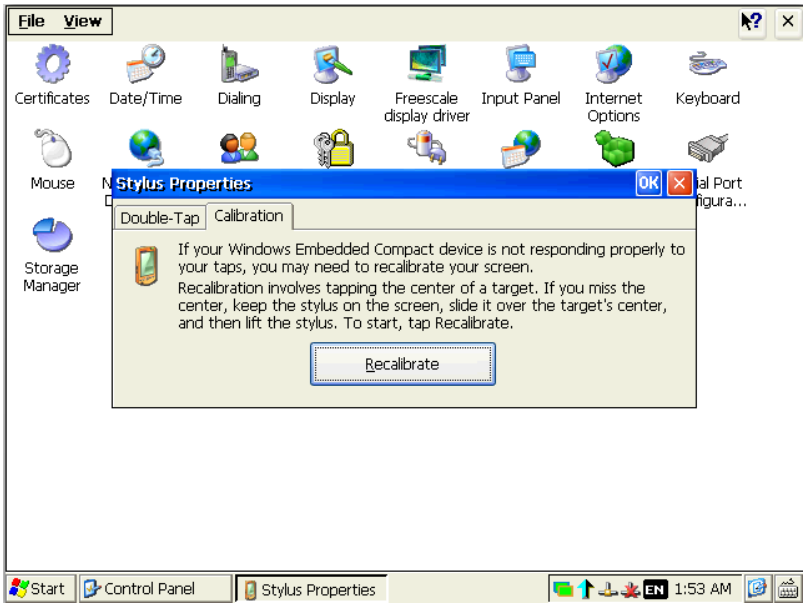


Figure 68
Calibration of the touchscreen

- Click on the "Recalibrate" button and follow the instructions.

6.2 Maintaining & cleaning

HMI30 is designed for maintenance-free operation except for the replacing of the battery backup when necessary. It is recommended to clean the touchscreen with a damp cleaning cloth and a display cleaning solution.

Note: clean the front panel of the system with a soft damp cloth only.

Attention: Do not use detergents, solvents, cleaners or objects that could scratch the surface.

Attention: switch off the power before any cleaning operation.

6.2.1 Procedure

Proceed as follows:

a) Switch off the HMI device or lock the touch screen.
b) Spray the cleaning solution onto a cleaning cloth.
c) Do not spray directly onto the display.
d) Clean the display from the screen edge inwards.

6.2.2 Backup battery replacement (CR2032 3V)

- Remove the two screws as indicated in figure.

Figure 69
Backup battery replacement

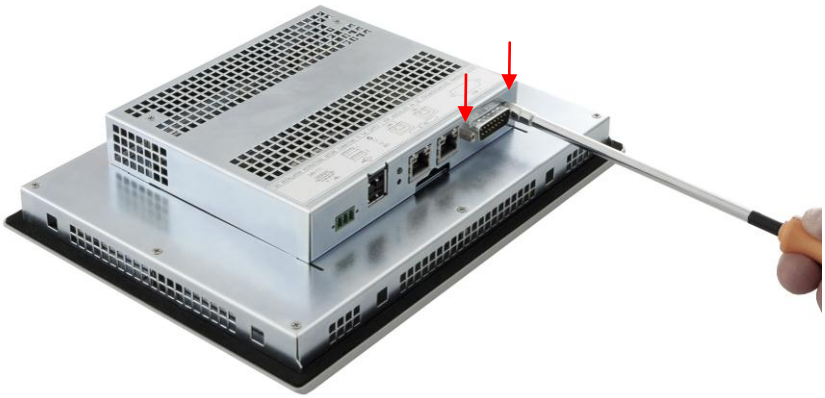
- Remove the two columns as indicated in figure.

Figure 70
Backup battery replacement

For 8.4 model please refer to the following images.

- Remove the two columns as indicated in figure.

Figure 71
Backup battery replacement



- Remove the two screws as indicated in figure.

Figure 72
Backup battery replacement

Figure 73
Backup battery replacement

- Locate the battery position.

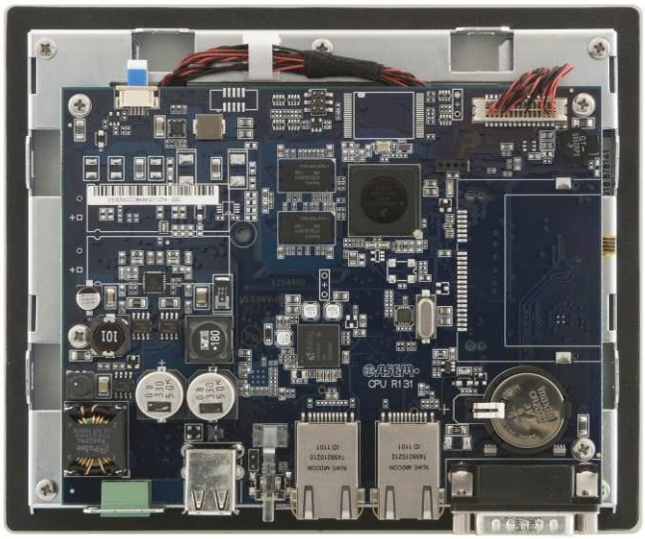


Figure 74
Backup battery replacement

- Remove the battery and replace it with one of the same model (CR2032 3V).

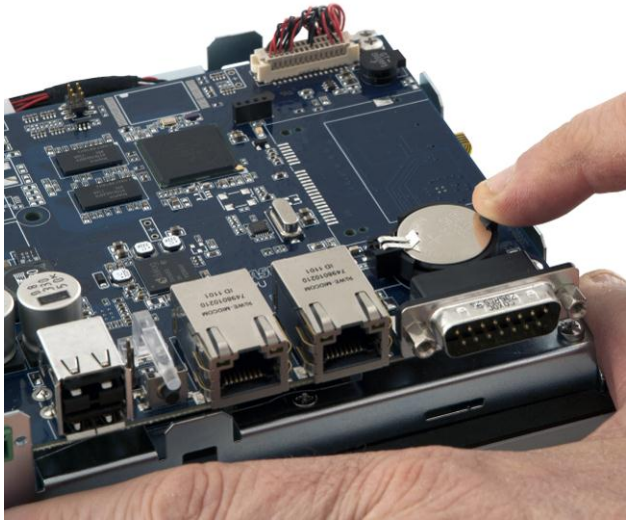


Figure 75
Backup battery replacement

Figure 76
Backup battery detail

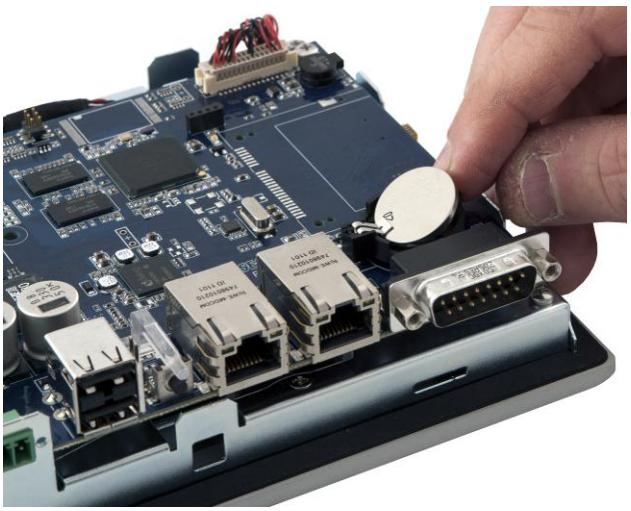


Figure 77
Backup battery replacement

Figure 78
Backup battery detail

6.3 Technical support & repairs

ASEM offers wide-ranging, complete after-sales technical support. The staff who deal with this handle questions on the entire range of products skilfully, quickly, and efficiently.
You can phone our staff in the service department, and they will give you complete, prompt advice on how to resolve your problems.

telephone: +39 0432 967435
fax: +39 0432 967480
e-mail: suptec@asem.it

6.4 Recycling and disposal

HMI30 can be recycled due to the use of materials with low environmental impact. Contact a certified disposal service company for environmentally sound recycling and disposal of your old devices.

SECTION **7**

Technical specifications

7.1 Technical specifications

Table 26
System software characteristics

System software characteristics			
Integrated system software	Operating System	Microsoft Windows Embedded Compact 7 (C7P)	
	HMI	Premium HMI 3 runtimes (BASIC, ADVANCED versions)	
	Remote control	ASEM Ubiquity runtime	
Premium HMI 3 characteristics		***BASIC***	***ADVANCED***
	I/O Bytes (Tags)	512	4.096
	Synoptics	●	●
	Graphic libraries	●	●
	Power Templates	●	●
	Alarms	512	2.048
	Accelerators and menus	●	●
	Touchscreen	●	●
	History Log events	●	●
	Dynamic language change	●	●
	IL Logic (SoftLogic)	●	●
	VBA Multithreading	●	●
	ActiveX- OCX	●	●
	CFR21 part 11	●	●
	Debugger Online/Remote	●	●
	IP Camera	●	●
	Dynamic trends	●	●
	History trends, Data Analysis	●	●
	Recipes	●	●
	OPC DA Client	●	●
	Networking	●	●
	Data Loggers	Max 2	●
	Text Reports	●	●
	Multi-Drivers	Max 2	Max 4
	SMS/E-mails	No	●
	Web Server	No	2 Users
Ubiquity characteristics		***BASIC***	***PRO****
	Remote desktop	●	●
	File manager	●	●
	Task manager	●	●
	Chat	●	●
	Screenshot	●	●
	VPN with access to the remote PC Ethernet subnet	No	●
	VPN up to remote PC	No	●
	Remoted serial (no MPI)	No	●
	API for customer applications interface	●	●
	Persistance log on runtime operations	●	●
	Domain creation, users account and remote PC organization structured	No	●
	Assistance requests notified by runtime	No	●
	Automatic connection	●	●

** PRO version will be soon available.*

Table 27
System hardware characteristics

System hardware characteristics		
Touchscreen	5.7"	4 wires – analog - resistive
	7.0"	4 wires – analog - resistive
	8.4"	5 wires – analog - resistive
	10.4"	5 wires – analog - resistive
	12.1"	5 wires – analog - resistive
	15.0"	5 wires – analog - resistive
Motherboard	Model	All-in-one, ASEM R131
	RTC	Hardware with battery backup
	Buzzer	Yes
CPU	Processor	ARM Cortex A8 - Freescale i.MX535 - 1 GHz
	Memory bus	400MHz
Graphic	Controller	GPU with integrated LCD controller
System memory	Type / Size / Socket	512 MB, / DDR3-800 / Soldered (contact ASEM for other memory options)
Serial interfaces	Type	1 x RS232/422/485 (DB15M) software selectable
	Optoisolation	No
Ethernet interfaces	Type	2 x 10/100Mbps (RJ45) with Link/Activity leds
USB interfaces	Type	2 x USB 2.0 (rear, TYPE-A, host port, single channel software switch off)
Mass storage	Internal / not removable	**NAND-FLASH**: 256 MB (Read Only) for Operative System, Premium HMI3 and Ubiquity runtime. **eMMC**: 2 GB - 8 bit v. 4.4 compatible (for data and user program)
	External access / removable	SD/SDHC card slot V. 2.0 (push-push type)
Battery	Type	Coin (CR2032 3V) removable
	Lifetime	3 years
Buttons, LEDs and keys	Reset buttons	System
	LEDs	Power / Removable Storage activity

Table 28
Electrical characteristics

Electrical characteristics		
Power supply	Type	Integrated on board, auto ranging
	Input voltage	18÷36 VDC with 3 poles connector
	Protections	Anti-inversion polarity, over-voltage, fuse soldered on the board
	Power consumption (Max.)	5.8W@5.7" 6.7W@7,0" 7.0W@8,4" 9.0W @10,4" 14.0W @12.1" (SVGA) 17.0W @12.1" (XGA) 15.5W @15,0"

Table 29
Mechanical characteristics

Mechanical characteristics			
Case	Type	Panel mount	
	Material	Steel, white zinc galvanizing	
Front panel	Construction	Full Aluminium alloy	Aluminium alloy True Flat frame with polyester foil
	Protection	IP65	IP65
	Color	-	PANTONE Cool Grey 4C

Table 30
Environmental characteristics

Environmental characteristics		
Temperature	Operation	0° ÷ +50°C
	Storage	-20° ÷ +60°C
Humidity	Operation/Storage	80% (non-condensing)

Table 31
Displays

Displays		
5,7"	LCD Size	5,7"
	Resolution	640 x 480 (VGA)
	Colors	256K
	Backlight	Sidelight LED
7" W	LCD Size	7" Widescreen
	Resolution	800 x 480 (WVGA)
	Colors	256K
	Backlight	Sidelight LED
8,4"	LCD Size	8,4"
	Resolution	800 x 600 (SVGA)
	Colors	16M
	Backlight	Sidelight LED
10,4"	LCD Size	10,4"
	Resolution	800 x 600 (SVGA)
	Colors	16M
	Backlight	Sidelight LED
12,1"	LCD Size	12,1"
	Resolution	800 x 600 (SVGA)
	Colors	16M
	Backlight	Sidelight LED
12,1"	LCD Size	12,1"
	Resolution	1024 x 768 (XGA)
	Colors	16M
	Backlight	Sidelight LED
15,0	LCD Size	15,0"
	Resolution	1024 x 768 (XGA)
	Colors	16M
	Backlight	Sidelight LED

Table 32
Measuraments

Dimensions		
5,7"	Full Aluminium (W x H x D)	175 x 145 x 40
	True Flat Alu (W x H x D)	175 x 145 x 40
	Cutout (W x H)	164 x 134
7" W	Full Aluminium (W x H x D)	215 x 155 x 40
	True Flat Alu (W x H x D)	215 x 155 x 40
	Cutout (W x H)	204 x 144
8,4"	Full Aluminium (W x H x D)	255 x 190 x 48,5
	True Flat Alu (W x H x D)	255 x 190 x 48,5
	Cutout (W x H)	243 x 179
10,4"	Full Aluminium (W x H x D)	245 x 230 x 48,5
	True Flat Alu (W x H x D)	245 x 230 x 48,5
	Cutout (W x H)	283 x 219
12,1"	Full Aluminium (W x H x D)	325 x 260 x 48,5
	True Flat Alu (W x H x D)	325 x 260 x 48,5
	Cutout (W x H)	313 x 249
15,0"	Full Aluminium (W x H x D)	390 x 305 x 48,5
	True Flat Alu (W x H x D)	390 x 305 x 18,5
	Cutout (W x H)	378 x 294

Table 33
Warranty & approvals

Warranty & approvals		
CE	Emission	Conforms to EN 55022 Information technology equipment – Radio disturbance characteristics
	Immunity	Conforms to EN 55024 Information technology equipment – Immunity characteristics
	Safety	Conforms to EN 60950-1 – Information technology equipment – Safety

7.1.1 5.7" display characteristics

5.7" display characteristics	
Dimensions	5.7" (4:3)
Technology	TFT active matrix
Display area	115.2 (W) x 86.4 (H) mm
Resolution	640 x 480 pixels
Display color	256 K colors
Pixel Pitch	0.18 (W) x 0.18 (H) mm
Luminance	500 cd/m^2
Horizontal viewing angle (left + right)	100°
Vertical viewing angle (up + down)	140°
Contrast ratio	250:1
Response time (Rise)	50 ms (Typ.)
Backlight	LED

Table 34
5.7" display characteristics

7.1.2 7" display characteristics

7" display characteristics	
Dimensions	7" wide (15:9)
Technology	TFT active matrix
Resolution	800 x 480 pixels
Display color	256 K colors
Pixel Pitch	0.1905 (W) x 0.1905 (H) mm
Luminance	350 cd/m^2
Horizontal viewing angle (left + right)	140°
Vertical viewing angle (up + down)	130°
Contrast ratio	400:1 (Typ.)
Response time (Rise)	10 ms
Backlight	LED

Table 35
7.0" display characteristics

7.1.3 8.4" display characteristics

8.4" display characteristics	
Dimensions	8.4" (4:3)
Technology	TFT active matrix
Display area	170.4 (W) x 127.8 (H) mm
Resolution	800 x 600 pixels
Display color	256 K colors
Pixel Pitch	0.213 (W) x 0.213 (H) mm
Luminance	350 cd/m^2
Horizontal viewing angle (left + right)	150°
Vertical viewing angle (up + down)	130°
Contrast ratio	600:1 (Typ.)
Response time (Rise)	10 ms (Typ.)
Backlight	LED

Table 36
5.4" display characteristics

7.1.4 10.4” display characteristics

Table 37
10.4” display characteristics

10.4” display characteristics	
Dimensions	10.4” (4:3)
Technology	TFT active matrix
Display area	158.4 (W) x 211.2 (H) mm
Resolution	800 x 600 pixels
Display color	16.2M colors
Pixel Pitch	0.264 (W) x 0.264 (H) mm
Luminance	400 cd/m^2
Horizontal viewing angle (left + right)	160°
Vertical viewing angle (up + down)	140°
Contrast ratio	700:1 (Typ.)
Response time (Rise)	20 ms (Typ.)
Backlight	LED

7.1.5 12.1” (SVGA) display characteristics

Table 38
12.1” (SVGA) display characteristics

12.1” display characteristics	
Dimensions	10.4” (4:3)
Technology	TFT active matrix
Display area	184.5 (W) x 246.0 (H) mm
Resolution	800 x 600 pixels
Display color	16.2M colors
Pixel Pitch	0.264 (W) x 0.264 (H) mm
Luminance	500 cd/m^2
Horizontal viewing angle (left + right)	160°
Vertical viewing angle (up + down)	140°
Contrast ratio	800:1 (Typ.)
Response time (Rise)	4 ms (Typ.)
Backlight	LED

7.1.6 12.1” (XGA) display characteristics

Table 39
12.1” (XGA) display characteristics

12.1” display characteristics	
Dimensions	12.1” (4:3)
Technology	TFT active matrix
Display area	184.32 (W) x 245.76 (H) mm
Resolution	1024 x 768 pixels
Display color	16.2M colors
Pixel Pitch	0.240 (W) x 0.240 (H) mm
Luminance	600 cd/m^2
Horizontal viewing angle (left + right)	160°
Vertical viewing angle (up + down)	140°
Contrast ratio	700:1 (Typ.)
Response time (Rise)	5 ms (Typ.)
Backlight	LED

7.1.7 15.0" display characteristics

Table 40
15.0" display characteristics

15.0" display characteristics	
Dimensions	15.0" (4:3)
Technology	TFT active matrix
Display area	228.1 (W) x 304.1 (H) mm
Resolution	1024 x 768 pixels
Display color	16.2M colors
Pixel Pitch	0.297 (W) x 0.297 (H) mm
Luminance	450 cd/m^2
Horizontal viewing angle (left + right)	160°
Vertical viewing angle (up + down)	140°
Contrast ratio	700:1 (Typ.)
Response time (Rise)	2 ms (Typ.)
Backlight	LED

7.2 Certificates and approvals

- ASEM's products are compliant with European Directive 89/336/EEC concerning electromagnetic compatibility and Directive 73/23/EEC concerning the safety of electrical products, and subsequent variations.

CE

- Emission
  Conforms to EN 55022 Information technology equipment – Radio disturbance characteristics
- Conforms to EN 61000-3-2 – Limits for harmonic current emissions
- Conforms to EN 61000-3-3 – Limits of voltage fluctuation and flicker

- Immunity
  Conforms to EN 55024 Information technology equipment – Immunity characteristics

- Safety Conforms to EN 60950-1 – Information technology equipment – Safety

7.3 Dimension drawings

7.3.1 HMI30 5.7”
(Full Aluminium front panel)

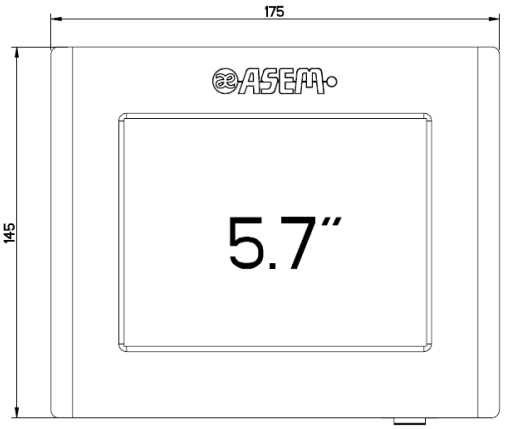


Figure 79
HMI30 5.7” front view

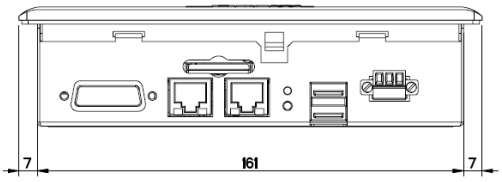


Figure 80
HMI30 5.7” bottom view

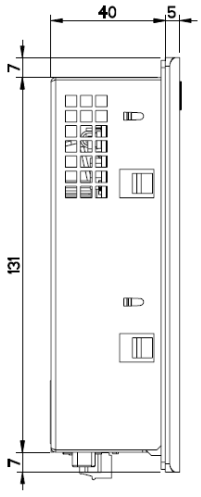


Figure 81
HMI30 5.7” side view

7.3.2 HMI30-TF 5.7"
(Aluminium front panel with True Flat technology)

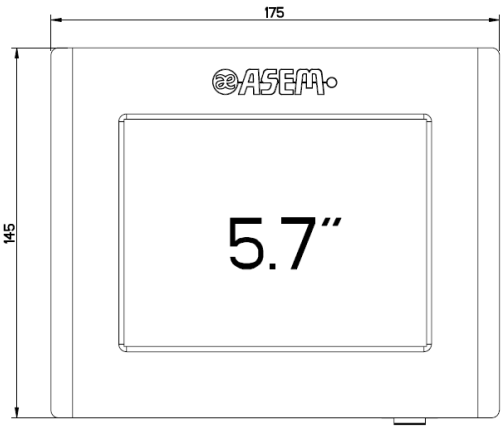


Figure 82
HMI30-TF 5.7" front view

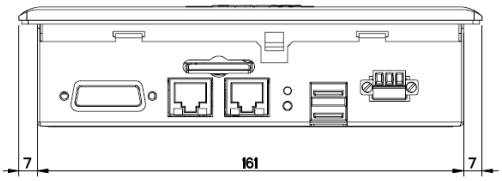


Figure 83
HMI30-TF 5.7" bottom view

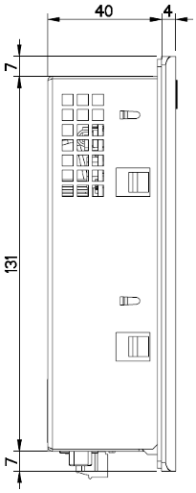


Figure 84
HMI30-TF 5.7" side view

7.3.3 HMI30 7.0”
(Wide Full Aluminium front panel)

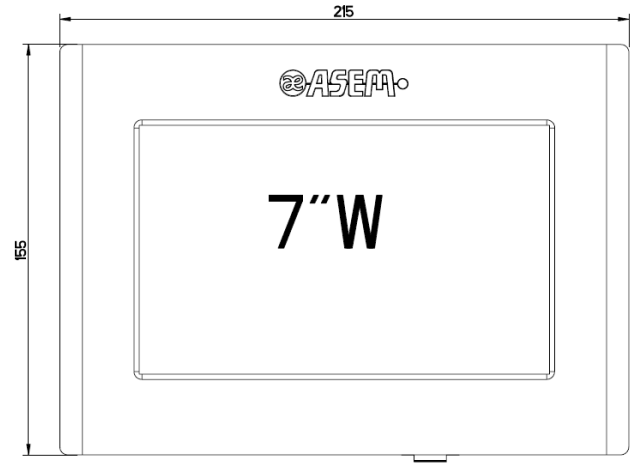


Figure 85
HMI30 7.0” front view

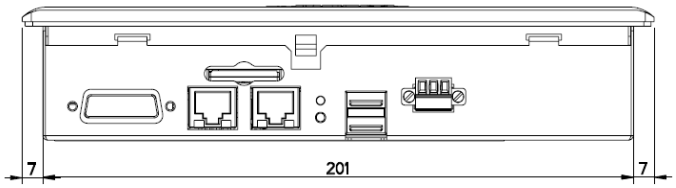


Figure 86
HMI30 7.0” bottom view

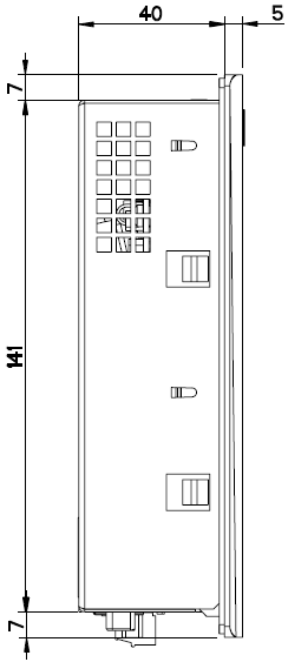


Figure 87
HMI30 7.0” side view

7.3.4 HMI30-TF 7.0"
(Wide Aluminium front panel with True Flat technology)

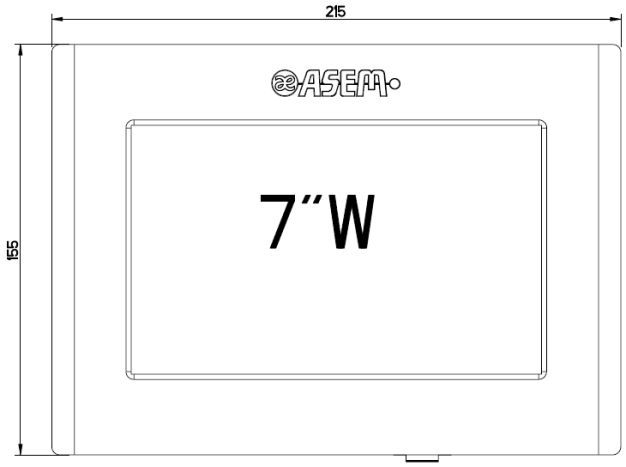


Figure 88
HMI-TF30 7.0" front view

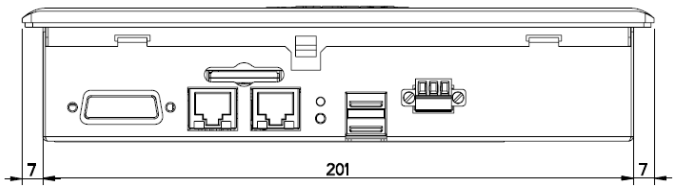


Figure 89
HMI30-TF 7.0" bottom view

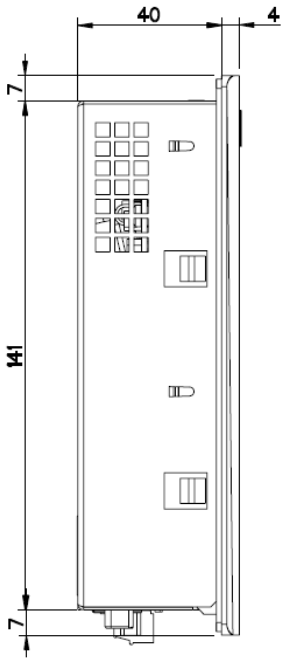


Figure 90
HMI30-TF 7.0" side view

7.3.5 HMI30 8.4”
(Full Aluminium front panel)

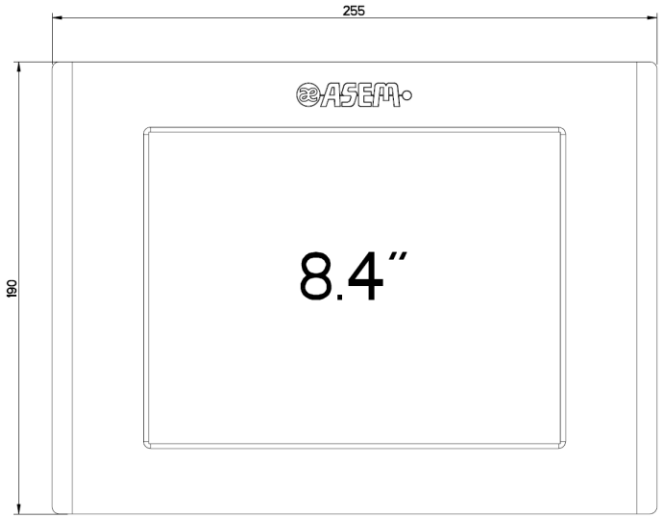


Figure 91
HMI30 8.4” front view

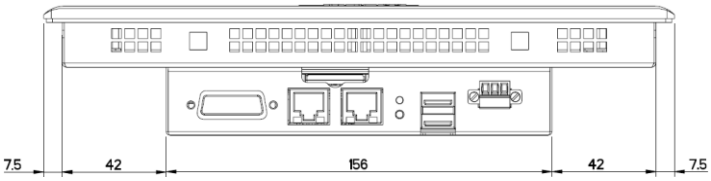


Figure 92
HMI30 8.4” bottom view

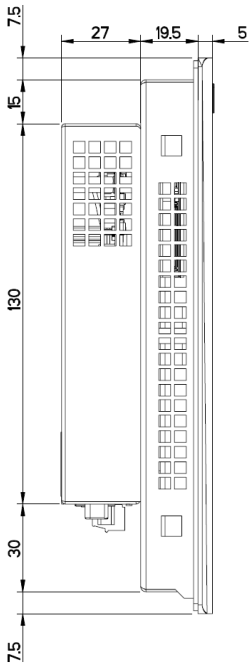


Figure 93
HMI30 8.4” side view

7.3.6 HMI30-TF 8.4"
(Aluminium front panel with True Flat technology)

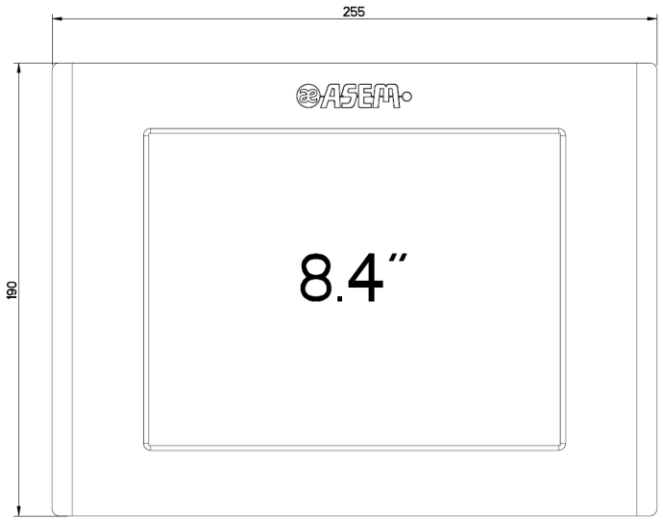


Figure 94
HMI30-TF 8.4" front view

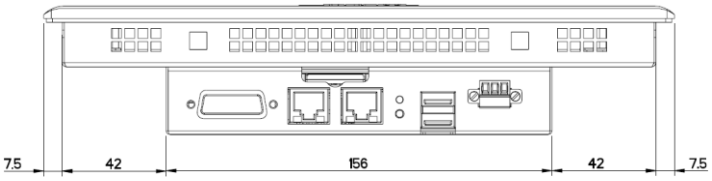


Figure 95
HMI30-TF 8.4" bottom view

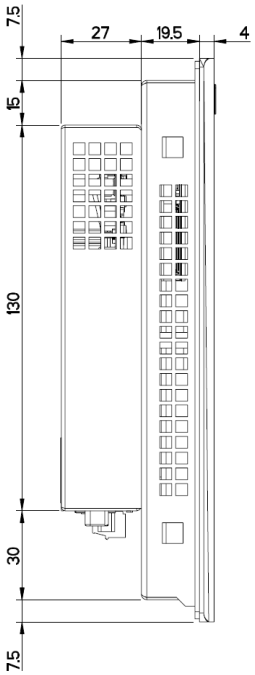


Figure 96
HMI30-TF 8.4" side view

7.3.7 HMI30 10.4”
(Full Aluminium front panel)

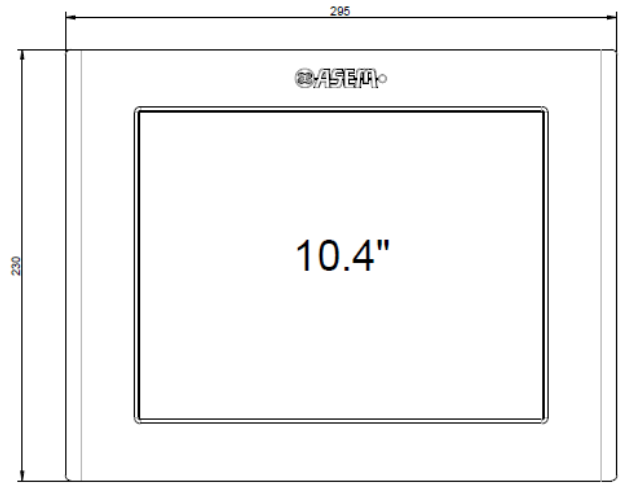


Figure 97
HMI30 10.4” front view

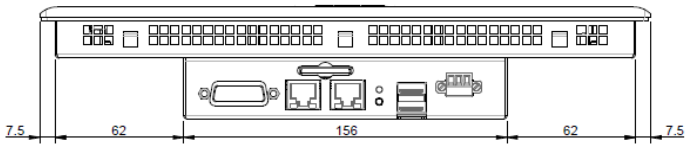


Figure 98
HMI30 10.4” bottom view

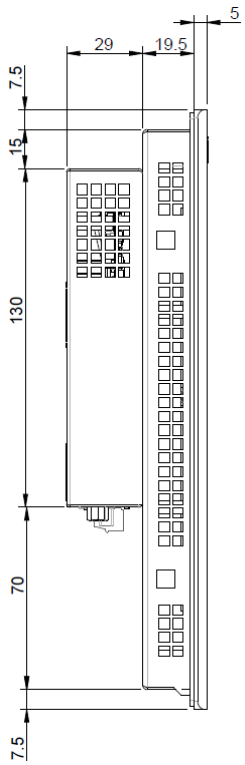


Figure 99
HMI30 10.4” side view

7.3.8 HMI30-TF 10.4"
(Aluminium front panel with True Flat technology)

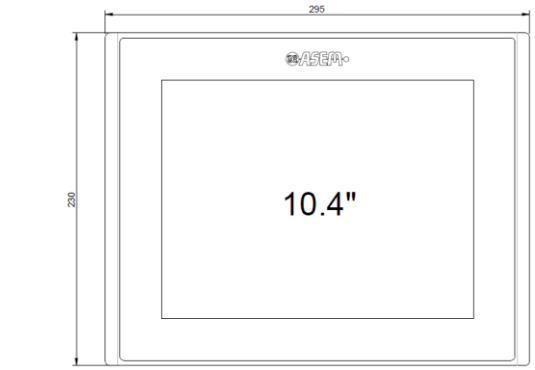


Figure 100
HMI30-TF 10.4" front view

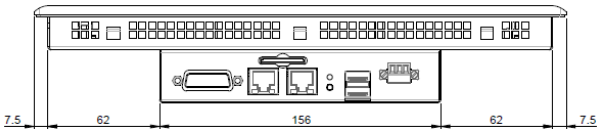


Figure 101
HMI30-TF 10.4" bottom view

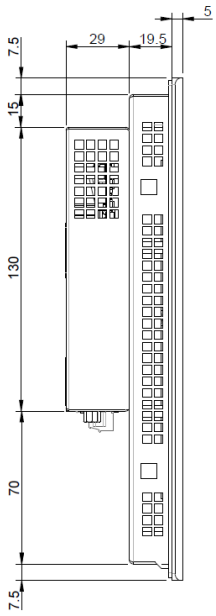


Figure 102
HMI30-TF 10.4" side view

7.3.9 HMI30 12.1”
(Wide Full Aluminium front panel)

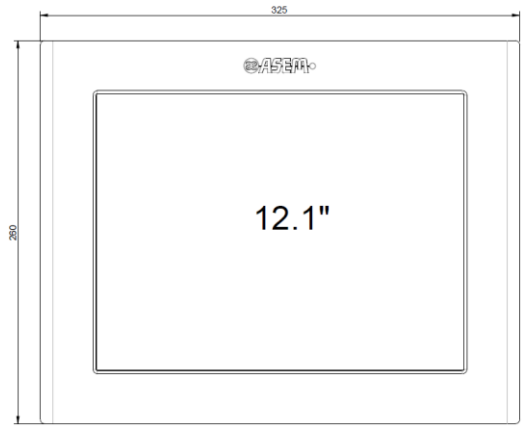


Figure 103
HMI30 12.1” front view

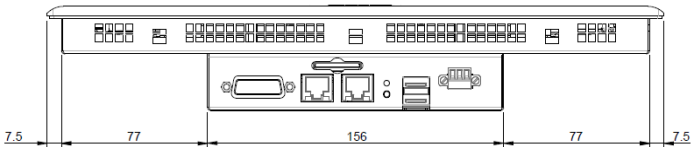


Figure 104
HMI30 12.1” bottom view

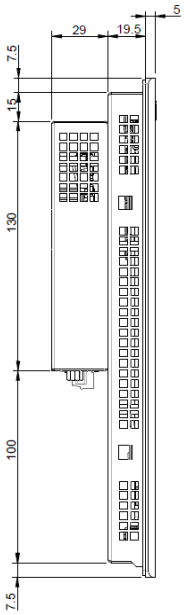


Figure 105
HMI30 12.1” side view

7.3.10 HMI30-TF 12.1"
(Wide Aluminium front panel with True Flat technology)

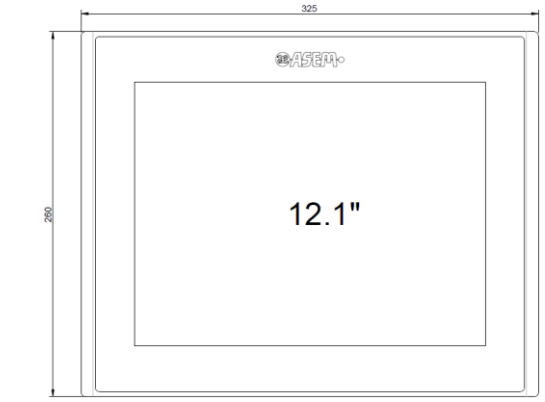


Figure 106
HMI-TF30 12.1" front view

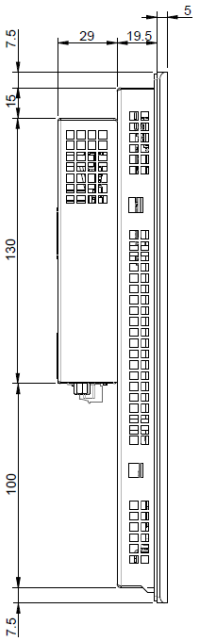


Figure 107
HMI30-TF 12.1" bottom view

Figure 108
HMI30-TF 12.1" side view

7.3.11 HMI30 15.0”
(Full Aluminium front panel)

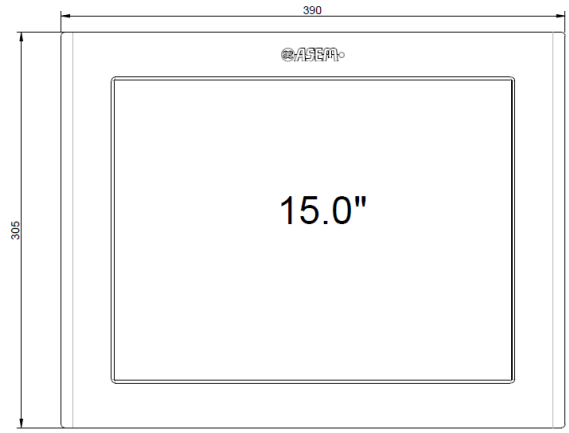


Figure 109
HMI30 15.0” front view

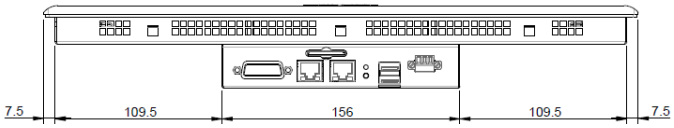


Figure 110
HMI30 15.0” bottom view

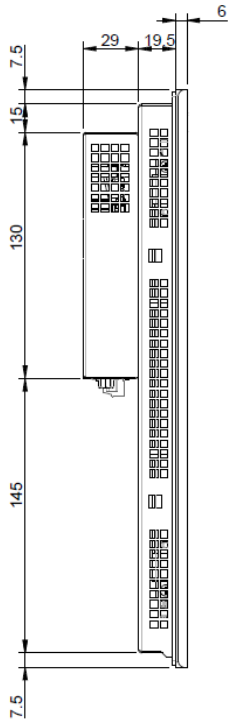


Figure 111
HMI30 15.0” side view

7.3.12 HMI30-TF 15.0"
(Aluminium front panel with True Flat technology)

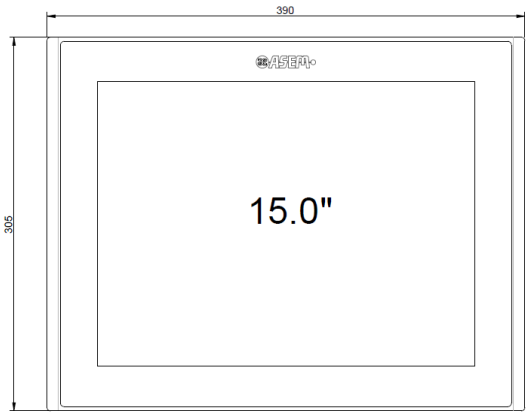


Figure 112
HMI30-TF 15.0" front view

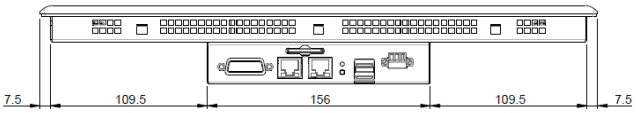


Figure 113
HMI30-TF 15.0" bottom view

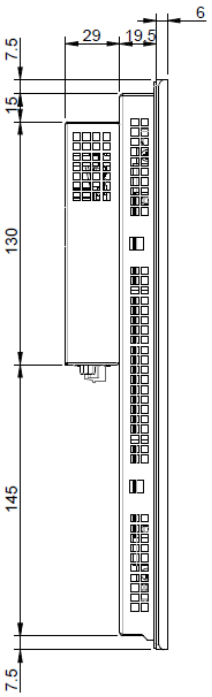


Figure 114
HMI30-TF 15.0" side view

7.4 Ports PINOUT

7.4.1 COM1 – DB15M Serial

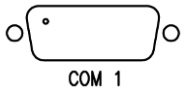


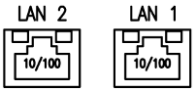
Table 41
COM1 – DB15M Serial

PIN	*Signal*	*I/O*
1	+5 VDC	OUT
2	Transmit Data (RS-232)	OUT
3	Receive Data (RS-232)	IN
4	Request To Send	OUT
5	Clear To Send	IN
6	Data Set Ready	IN
7	Ground	—
8	Data Terminal Ready	OUT
9	Carrier Detect	IN
10	Transmit Data +/Receive Data + (RS-485/RS-422)	I/O
11	Transmit Data -/Receive Data - (RS-485/RS-422)	I/O
12	Ring Indication (RS-232)	IN
13	Receive Data + (RS-422)	IN
14	Receive Data - (RS-422)	IN
15	N.C.	N.C.

Any polarization or termination resistor is connected to RS422/485 channel so, if required, it has to be provided by the user into the plant connector.

7.4.2 LAN1 – LAN2

Table 42
LAN1 – LAN2



PIN	*Signal*
1	TX+
2	TX-
3	RX+
4	Shield
5	Shield
6	RX-
7	Shield
8	Shield

7.4.3 USB1 / USB2

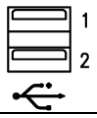


Table 43
USB1 – USB2

PIN	*Signal*
1	+5 Vcc
2	USB Data -
3	USB Data +
4	GND

7.5 Technical support & repairs

ASEM offers wide-ranging, complete after-sales technical support. The staff who deal with this handle questions on the entire range of products skilfully, quickly, and efficiently.
You can phone our staff in the service department, and they will give you complete, prompt advice on how to resolve your problems.

telephone: +39 0432 967435
fax: +39 0432 967480
e-mail: suptec@asem.it

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